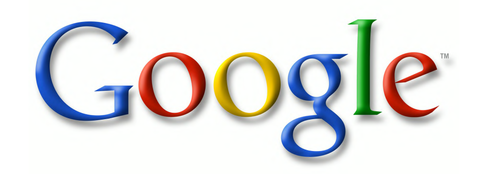


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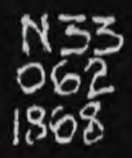
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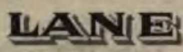
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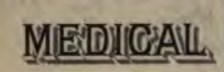
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VISCERAL AND HEREDITARY SYPHILIS.









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TO

JOHN SIMON, ESQ., F.R.C.S., F.R.S.

MEDICAL OFFICER OF THE PRIVY COUNCIL,

THE INDEFATIGABLE WORKER IN THE FIELD OF SANITARY SCIENCE,

These Pages

ARE RESPECTFULLY DEDICATED

BY

HIS OBLIGED AND VERY FAITHFUL SERVANT,

THE AUTHOR.

PREFACE.

IN the early part of my professional career I had charge of the department of a large charitable institution in which Lock patients were treated; and again, during the last two years, numerous out-patients afflicted with constitutional syphilis, including many cases of infantile inherited disease, have attracted my attention. I made it my business to examine those cases carefully where I suspected the vital organs affected, in order to confirm or correct the views of other observers on the symptoms and progress of these diseases, and to elucidate more fully certain diagnostical points. The subject being of vast importance, I may hope that my contributions may be acceptable to the Profession.

The extent of venereal disease among the population of this country having been recently investigated in various ways—viz., by official reporters and committees—has been found more fearful than was ever expected. At the same time, recent scientific researches have

proved that syphilis is far less a surgical disease than was formerly supposed; that no organ of the body has immunity from being invaded; and that syphilis is the direct or remote cause of death in more cases than was formerly suspected.

Many syphilographers believe at present that syphilis, when once acquired, is never wholly eradicated; others assert that many years must go by before those who were infected are safe from relapses. The transmission of the disease by more ways than was formerly admitted is fully established. Many obscure cases, which formerly went under the term of cachexia, turn out to be cases of visceral syphilis; and the frequency with which I noticed, in dispensary patients, the peculiar notched teeth first adverted to by Hutchinson, points in the same direction. Workhouse infirmaries and pauper asylums may even now contain many undetected cases of visceral disease which await a scientific detector.

Many of the handbooks on syphilis contain very little or nothing on these affections, and the reports on cases and recent investigations are scattered in medical journals. The comprehensive work of Lanceraux, which forms a most honourable exception, is not yet translated; and, when translated, will be found far too voluminous by many professional readers.

It is further desirable that a knowledge of visceral and inherited syphilis be thoroughly acquired by the

great mass of the younger medical generation; otherwise, prevention by measures of public and private hygiene is impossible. Who, then, is more competent to prevent disastrous marriages than the family physician? who knows better the frequency of inherited disease? The amount of preventable diseases and the neglect of prevention are almost incredible, and the constant levity displayed by the public when afflicted with important diseases is no less surprising.

Nowhere has the progress of science more tangible results than in preventable diseases. The single worker must not be deterred by the knowledge of the infinitesimal proportion of his contribution to the large field of science, nor by the knowledge of so many others being incomparably better fitted for the work, and he must rely on, and may plead with some reason, his honest intentions. Wiser though we may be than our forefathers in the science of visceral syphilis, we are far from being wise enough; and in this, as in other scientific matters, I feel inclined to use the dying words of the immortal Goethe—"More light!"

10, Charlotte Street, Portland Place, W.
March, 1868.

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CHRONOLOGICAL ACCOUNT OF WORKS PUBLISHED ON VISCERAL SYPHILIS.

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VISCERAL AND HEREDITARY SYPHILIS.

ON THE MODES OF ACQUIRING SYPHILIS.

It would be superfluous to say anything about this if our knowledge on the propagation of syphilis had not been recently extended. Some continental writers have drawn attention to sources of syphilitic affection which were unknown heretofore. Alfred Fournier mentions a case where primary affection of the pharynx was caused by catheterism of the tuba Eustachii, for ear-disease ("Gazette des Hôpitaux," June 25, 1863). Diday likewise ("Gazette Méd. de Lyon," 1866). Köbner ("Mittheilungen über Syphilis," Erlangen, 1864) relates a case of primary affection of the throat by kissing a baby fifteeen months old, and a similar case in No. 49 of the "Deutsche Klinik." The infected persons in the former case were a rector and his family, and the child had acquired the disease from a female attendant. A midwife got a primary sore at the finger by attending to a diseased woman in childbirth, and afterwards had constitutional syphilis (Köbner, *l. c.* p. 64). Recent experiments (by Waller of Prague, Pelizzari of Florence, and Gibert, a French physician) have proved satisfactorily that the blood may become the means of infection. Sigmund (professor at Vienna)

enumerates the noxious trades of glassblowers, workers with the soldering-pipe, as also barometer and thermometer makers, where cases of infection happened ("Deutsche Klinik," 1868, No. 4). Instances of infection by the use of linen, washing-tubs, syringes, drinking-glasses, sucking-bags, and sponges, have also become more frequent. Medical men have been infected in exercising their duties. Vaccine lymph and nurses' milk have become the carriers of contagion. The manner in which syphilis is inherited is better known. The dangers arising from the disease, in whatever manner acquired, are the same; the consequences are even more disastrous where the source is not suspected. In such cases a specific treatment is not adopted early enough, and visceral lesions are more likely to occur.

THE ACTION AND EFFECTS OF THE SYPHILITIC POISON ON THE INTERNAL ORGANS, AND THE NATURE OF THE AFFECTIONS.

External syphilis—viz., the affections of the skin and mucous membranes—so far as visible to the eye, could always be more easily studied and investigated than the more obscure lesions of the viscera. Even at the present time, we are not well acquainted with the manner in which the pathological changes of the latter commence, as the opportunity to study fresh cases is rare. Pathologists agree better on the anatomical and microscopical nature of the products than on the manner in which they are formed. Not satisfied with the doctrine of Virchow and his school, based on the cell theory, who adopt a proliferation of cell elements in pre-existing

cells, others speak, though they do not deny the theory, of simple hyperplasia being in the commencement present in many cases, and afterwards transformed into cellulous hyperplasia (Beer, 1867). Something similar to Virchow's theory seems somewhat vaguely implied under the term effusion of fibro-plastic material* (Wilks, 1863), and something very different to it by croupous exudation (Billroth). This latter explanation is quite untenable if we accept any similarity between external and internal syphilis, of which there is little doubt. One of the most recent writers (Lanceraux) refrains from giving a decided opinion on the point, and we must leave it *sub judice*, though in my humble opinion the attacks against the theory of cellulous hyperplasia have not much shaken it.

One thing is certain, that often different viscera are attacked simultaneously or successively—that the new material undergoes certain transformations, usually in a slow manner. This must generally occur in a different way from active inflammation, though it is by no means certain that a more active process does not obtain exceptionally. Some observations made in disease of the liver and testicle seem to sanction this supposition.

Two forms are distinguished—the diffuse and the circumscript one. The tendency of syphilis when invading the organs is always to do so in a gregarious manner; therefore, even in the diffuse form a patchiness is observable (in the spleen, kidneys, &c.). The ultimate result of the process is destruction—local death of

* Fibro-plastic material is not a happy term; it is not unmeaning, but it means too much and decides too little. It implies that the fibrinous tendency prevails in the plasticity more than the aggregation of cells. Kako-plastic might, perhaps, be better.

the affected part. The new formations take the place of the original structure in a compensating manner.

The circumscript forms are known as gummata,—Gummi Geschwülste, tumeurs gommeux, gommi—a term which, though objected to by some (Wilks), is now embodied in medical literature. We find it already used by Van Swieten, and later by Ricord (1841), of externally situated nodes. The gummata have a very characteristic appearance, varying, however, with their state of development. Virchow, Wagner, Beer, Robin, Lanceraux, Lebert, Wilks, and others, give descriptions of them. Many specimens may be found in Guy's Hospital Museum.

The original state of the gummata is a semi-fluid one. It is a synovia-like substance, whence the name; it is also described as a translucent fibrous deposit, which becomes consolidated in the course of time. It undergoes fatty degeneration, more particularly in its centre, and sometimes gets cheesy, at others milky, or calcifies. In the beginning, Virchow found three different zones (see testicle); afterwards only two were discernible—an external one, forming a capsule or case of dense, often tendinous, structure; and a nucleus. The gummi tumour gives the amyloid reaction (Baerensprung). Absorption of the deposit in part or to a great extent takes place under some circumstances (see Gummata of the Brain, Liver, and Testicle, further on).

The period when the viscera are attacked is generally that of the tertiary symptoms. But cases are related where visceral syphilis occurred two months and a half after primary infection (Kuh). In other instances a period of ten years or more elapsed before the symptoms cf disease of internal organs became manifest; a case is

even recorded where this period was twenty years. The course and progress of the visceral affections is slow and insidious; relapses are frequent. Death supervenes in extreme cases, either from general cachexia or from disturbance of the function of vital organs; or, as Virchow is inclined to think, from accidental diseases, which the enfeebled constitution is unable to resist.

The visceral lesions which attack children of syphilitic parents make their appearance at a much earlier period than those of adults, and the mortality is much higher in infantile disease.

THE NERVOUS DISEASES ARISING FROM SYPHILIS.

These affections attracted the attention of our forefathers more than two centuries ago, who classed under the term of syphilis larvata a number of various complaints, the nature of which was obscure to them. In 1830, Lallemand, a French physician, published some valuable anatomical accounts bearing on the question. New light emanated from Strasbourg twenty years later, through Schützenberger and Bedel (1850 and 1851); and more recently Wilks, Virchow, Lagneau, Zambaco, Jacksch, Lanceraux, and others, have contributed to this branch of science, so that the nosology becomes still more complete.

CLASSIFICATION OF THE NERVOUS DISEASES.

Nervous diseases arising from syphilis are either referrible to anatomical lesions, or there are no lesions to be found. The former is far more frequent than the latter. They are originated either in a direct manner, or the

syphilitic cachexia is the more remote cause. Every single anatomical portion of the nerve centres and their integuments may become diseased, and the nerves may be separately affected.

Diffuse and circumscript lesion may be found separate or combined. The substance of the nerve centres may be found degenerated, altered, or destroyed in various forms; and as the osseous structures, when affected, may draw the organs into the sphere of disorganization, a notice of these affections must be appended. Hydrops of the brain must find a separate place; mental diseases caused by syphilis require a short notice, as also some rarer forms of nervous affections.

Syphilis may give rise to all the multitudinous and various nervous diseases which pathological science knows. Where the motor nerves suffer, paralysis or convulsions are the consequence; where the sensory ones are affected, hyperæsthesia and anæsthesia are observed. The seat of the lesion may be central or peripheric, but it is generally near the origin, and rarely found in the transit of the nerve. The sympathetic nerve and the ganglia may also suffer; but very little is known as yet of these affections. The senses become impaired in various ways.

AFFECTION OF THE BRAIN AND ITS MEMBRANES.

Syphilitic Meningitis.—The brain is surrounded by the membranes and the skull, and the former not unfrequently become diseased through syphilis. The dura mater is more frequently attacked than the others, and either its visceral or extern lamina may be affected.

The form is diffuse or circumscript; an active inflammation is doubtful; exudation of a lymphy fluid and adhesions are usually found. No case is known where the arachnoidea was singly affected, but Virchow mentions one where the pia meninx alone was diseased. It may be that one membrane is originally affected; but the disease spreads, and at the post-mortem they are generally all in a state of morbid alteration. Such cases are related by Ziemssen, Virchow, A. Beer, Lanceraux, and others.

Small gummous tumours have been found imbedded in the membranes, and the latter were at this place adherent to the skull. Virchow observed, in many cases of infantile syphilis in Würzburg, small whitish spots, which consisted entirely of fatty granules.

The syphilitic nature of these changes can scarcely be maintained, unless other organs show characteristic lesions, or the history of the case confirms the diagnosis. Virchow thinks, however, that adhesions as afore-stated, especially when in connection with small gummata, are almost conclusive evidence.

SYMPTOMS OF DISEASED MEMBRANES.

One of the most constant symptoms in adults is pain of a violent and persistent character, especially at night, causing sleeplessness, and at the same place. Its seat is often near the occiput, sometimes increased by pressure. Giddiness or swimming in the head is frequent, but not of an overwhelming nature, and not lasting for a long time. Paralysis is rare, unless the brain suffers also, because the exudation is moderate; passing paresis of certain muscles or a whole limb is

not so rare, owing to pressure on the brain. In one case I had under my care, numbness in one arm only existed. Epileptic fits or transient loss of consciousness is caused by disease of the membranes (Westphal, Russel Reynolds). Where the membrane of the cerebellum is diseased, nausea, vomiting, and photophobia have been observed (Virchow, Lanceraux). Tertiary symptoms of syphilis often co-exist, but not always. General nervousness is sometimes a concomitant symptom. The course of the disease is very tedious; the symptoms may improve a little, then remain stationary, and become worse again; altogether, years may pass; but even old cases may improve under treatment.

Tüngel relates the case of a woman, aged 40, who died in the Hamburg General Hospital, 1860. She suffered from violent headaches, and had epileptic fits; she died of hydrops, and was unconscious shortly before her death. She had previously had primary and secondary syphilis. At the post-mortem, the dura mater was found solidly united to the skull, and a layer of firm yellowish lymph between the two laminæ. At the right parietal side the dura and pia were united; and in three places dry, solid, elastic masses were imbedded in the convolutions. A gummous tumour adhered to the epiglottis, and the liver had deep depressions and callous cicatrices.

Diagnosis.—The age of the patient and his previous health are to be considered. The nature of the pain has to be investigated. Nocturnal exacerbations are always suspicious. Symptoms of paralysis or paresis, which pass away after some time, are often caused by syphilis. It is not yet known to which circumstance their transient character has to be ascribed. All the symptoms are of

a very chronic nature. The epileptic fits are stated to differ from those caused by other diseases; the patients do not shriek (Lanceraux); the fits are short, and the giddiness persists during the intervals.

Prognosis.—Syphilitic affections of the membranes are often cured, and therefore the prognosis is not unfavourable in an uncomplicated case.

Treatment.—Iodide of potassium has principally to be relied upon, but in some cases mercury was given with success. Embrocations applied to the semi-paralyzed muscles or the numbed skin do no harm. Electricity should not be used. Violent nocturnal headaches often make large doses of opiates necessary.

SYPHILITIC AFFECTIONS OF THE SKULL, EXTENDING TO THE MEMBRANES AND BRAIN.

Caries syphilitica of the skull sometimes leads to brain disease and death. The os frontis and the lamina cribrosa are most frequently attacked; next to them, the pars petrosa. Before anything can be seen, dolores osteocopi exist; later, tophi may be felt, and deep ulcerations are formed. The brain symptoms vary with the seat and extent of the disease. Van Swieten relates a case of destruction of the bones near the sutura sagittalis, leading to putrefaction of the meninges. The son of the French general Massena died of syphilitic exostosis near the sella turcica. Zambaco had a case (No. 68) where the frontal bone was destroyed, so that an instrument reached the soft teguments of the brain. The patient, a female aged 40, had only one attack of loss of consciousness, lasting five minutes; she then took

iodide of potassium, and was cured. Virchow ("Archiv," xv. p. 296) relates the case of an invalid officer who died in the hospice (Invalidenhaus). He had caries of the occiput, which ended in disease (inflammation and softening) of the brain. Sometimes desperate cases are cured by iodide of potassium.

THE BRAIN ITSELF ATTACKED.

For frequency this organ suffers in the second place, the liver standing first on the list. Diffuse syphilis of the brain, leading to sclerosis, is recognized by Virchow and Lanceraux, but the few cases in existence are not beyond doubt. Both authors describe a case. They found the substance very resistent. Virchow found a yellow colour; Lanceraux a greyish one, as if the brain had been immersed in spirit. Lanceraux considers sclerosis caused by syphilis in no way different from the ordinary one, except by its disposition to fatty degeneration. The opposite of induration, viz. diffuse softening, was also observed. In these cases the ventricles sometimes contain fluid. Cases are supplied by Greppo, Dittrich (1849), Schützenberger, Duchek ("Prag. Vierteljahrschr." 37, O. 6). In this case, red hepatization, osteophytes, œdema of the membranes, superficial cicatrix cerebri, were found, and by Westphal.

Apoplexy.—It is quite possible that syphilis may be a remote cause of apoplexy, but we are not in a position to prove this by facts. Syphilis leads to fatty degeneration of blood-vessels and capillaries, and these may therefore burst. Also small gummous tumours, the occasional existence of which in the walls of the cerebral arteries is beyond doubt, may soften and break. We do

not look for syphilis as a cause of apoplexy in other organs (lungs), but for embolism and heart disease. If a syphilitic apoplexy exists, it is the very rarest of all syphilitic brain affections. That it is produced by the combined action of syphilis and mercury (Leubuscher) cannot be proved.

Gummata of the Brain.—There is no lack of cases of this description; still, the different groups of symptoms, as caused by circumscript tumours, are far from being accurately known. Proust, Bouet, Bayle, Kergaradec, Ward, Tacheron, Gjör, Nélaton, Zambaco, Wilks, Moxon, and Beer, have given descriptions. The gummata were found in the cerebrum and cerebellum, and similar to those of other organs undergoing the same transformations. Their centre was often soft and cheesy, the capsule fibrous. Softening of the brain in the neighbourhood of the gummata was frequently observed.

One case of many may be selected; it is given by Lanceraux. A female (31) died in the Lourcine. She had had primary symptoms ten years previously. The symptoms were those of hemiplegia, giddiness, weakness of intellect, and amblyopia. Under the use of iodide of potassium she got better, but she had a relapse, and died at the hospital in a state of great cachexia and exhaustion. At the post-mortem, the brain was found pale, colourless, anhæmic; in some places, of abnormal hardness. In the right hemisphere small yellow spots were found, and the substance near them soft and lacerated. On the surface were yellow tumours the size of a pea, consisting of a nucleus surrounded by a fibrous membrane. Some were very hard. No organ but the liver contained traces of syphilis; it was fatty, and had deep depressions.

SYMPTOMS OF GUMMATA.

The functionary derangements are slight at the beginning. Single muscles, or groups of muscles, become impaired, according to the seat of the tumour. Anæsthesia of certain groups of nerves of the skin has been observed. Where the grey convolutions are softened in the neighbourhood of tumours (as also of exostoses), convulsions supervene. Loss of memory belongs to a very late stage, as also permanent loss of speech (aphasia). The intellect gets impaired, but seldom to a great extent. At a late stage the cases resemble somewhat those of paralysis progressiva (Westphal).

The affections of the membranes and of the brain are frequently associated—so much so, that some authors consider them to be always united; then, of course, the symptoms of both coexist, sometimes those of one disease prevailing over the other. Local pain is often so predominant that undoubtedly the nerves of the membranes are affected. The less the memory or intellect suffers, the less reason we have to think of brain affection. In more advanced cases the lesions are various, and the symptoms accordingly.

DIFFERENTIAL DIAGNOSIS OF SYPHILITIC BRAIN DISEASE.

It is difficult when the disease is in its infancy, and also when very far advanced. (1) From tubercle. This is a disease of infancy, and rarely follows such a chronic course as syphilis. The rare cases of chronic tubercular

disease of the brain usually offer some reliable diagnostic points, if the history of the case, hereditary disposition, and state of the lungs is closely investigated. There is always more heat of the body than in syphilis. (2) From non-syphilitic softening. The diagnosis is difficult under some circumstances. If we have the symptoms of softening in an individual suffering from syphilitic caries and other visible specific affections, we have no trouble in deciding; but if we have a patient who is too ignorant, or otherwise incapable to assist us in tracing the remoter causes of the illness, we are perhaps unable to decide one way or the other. The non-syphilitic disease has, however, this peculiarity, that it slowly progresses without such remarkable fluctuations as syphilis. (3) From imperfectly cured apoplexy. In this state the patients show more confirmed symptoms of hemiplegia, and especially a more characteristic disfiguring of the lower part of the face, than in syphilitic disease. In the latter we have to look for changes more to the region of the eye. The history of the attack also leaves no doubt. In apoplectic disease the paresis of the leg leaves the patient last; in syphilitic disease it is often absent. (4) From emboliæ. Here we have to base our diagnosis on the existence of heart disease. Embolism generally is originated by fibrinous particles being detached from the heart and brought into circulation; but this is rare unless a recent attack of inflammation has preceded, and generally this was not the first attack. (5) From progressive paralysis. There are, of course, cases of advanced paralysis where it is scarcely possible to decide if they are caused by syphilis or not, but the speech and the gait are peculiar in the first stage of progressive paralysis; and I also believe that the aspect of the patients suffering

from the common paralysis is more unmeaning and forlorn. (6) From carcinoma cerebri. This is a rare disease; it extends always to the neighbouring parts, and causes deeper cachexia than syphilis. (7) From bone disease, especially exostosis of the inner skull. We are only entitled to diagnose the latter if we find them also in explorable parts; for instance, the tibial bone.

Under all circumstances, we may draw a pretty safe conclusion, *ex juvantibus et nocentibus*, in this instance, from the action of iodide of potassium. Where it cures the disease, it has very rarely been non-syphilitic. A case may be adduced to prove the value of this remedy.

William Waylor, 43, of pale complexion, rather bald, presents himself at the City Dispensary on May 6, 1867. He complains of being unable to use his right arm properly; he feels numbness in it, and in the leg and right side of the body generally. This had become worse during the last three months. He cannot always well open his eyes; sometimes headache troubles him at night. No part of the head is tender on pressure, but there is some pain over the eighth dorsal vertebræ. Patient feels sometimes a little giddy, but never lost consciousness. Had primary syphilis five and a half years ago, and occasionally secondary symptoms on the skin. The pulse is regular, slow; tongue a little coated with white fur; appetite good; and there is no affection of the lung and liver. Ordered iodide of potassium, gr. x. in mist. menthæ three times a day.

A fortnight after, patient was a little better; the numbness is almost the same. He says tobacco smoking makes him worse; he feels more giddy.

After taking the medicine three weeks, he began to improve a little; after four weeks he could squeeze my

hand pretty well, which he could not before, and felt stronger. To continue as before.

June 20. The patient now takes cod-liver oil, but shall resume the iodide of potassium once more in a short time. The numbness has disappeared; he says, "my hand is already warm, and perspires like the other, which was not so formerly." Discharged cured in July.

The age of the patient, the absence of heart disease, the slow development of the symptoms, the precedent venereal disease, the suspicious affection of the levatores palpebræ superioris, the nightly pain, and, more than anything else, the remarkable effect of the specific remedy, proved satisfactorily that the case was one of syphilis of the brain, with partial affection of the integuments. The seat was most likely in the left hemisphere, near the pedunculus cerebri; most likely a small soft gummous tumour, with circumscribed softening. The pain observed over one place of the spine might be also ascribed to syphilis, although a rheumatic affection would cause it likewise. But then the patient did not remember to have been subjected to a cold.

Prognosis.—It depends upon the symptoms, form, and stage of the affection. If we consider the more common form, the gummata, we have to answer the question, can they be absorbed? or, can they undergo such alterations that they do no harm? As to the first point, we know that the vis medicatrix naturæ is very powerful. So long as no fibrous capsule is formed round the nucleus of the gummous circumscript exudation, the blood and lymphatic vessels are not cut off from it, and absorption seems possible; this early stage has been studied in the testicle, where healing by absorption cannot be doubted. It is also asserted that the empty cysts sometimes found

in the substance may be the capsules of gummata, the nucleus of which was absorbed. Another question is, whether these tumours may undergo such changes that they are tolerated? For such a view, the existence of shot being enclosed in a fibrous capsule without symptoms arising from it, in internal organs, seems to speak.

Treatment.—The iodide of potassium, the introduction of which we owe to Wallace, of Dublin, who employed it largely in syphilitic caries, is our sheet anchor in the diseases in question. Tonics and cod-liver oil are also valuable remedies.

HYDROCEPHALUS.

It is found in conjunction with the foregoing alterations, but also without them. In the latter case it may, nevertheless, owe its origin to syphilis in a less direct manner, of which the following seems to give a proof.

Inherited disease, plaque muqueuse, debility from diarrhœa, symptoms of hydrocephalus, cachexia, death, post-mortem, fluid in the ventricles, and gelatinous exudation at the base.

Henry Kerridge, 8 months old, the first child of a healthy mother, was brought to the dispensary on October 21, 1866. The father, a sailor, who was at sea, had secondary symptoms shortly before marriage. The child was born healthy, but weak. He began to sicken four weeks after birth. The mother relates that he had an eruption, and was under medical treatment for some time. He is now very emaciated, has a wrinkled face, "faciem senilem," with prominent forehead, and large head (circumference 16 inches). The

fontanelles widely open; the arms and legs thin; small swollen and lymphatic glands at the back of the head. A mucous tubercle was found at the anus. The child does not hold its head backwards, and is not hot, but the skin is cool and of an earthy hue. Lately he suffered from diarrhœa, and therefore tinct. catechu was ordered in infus. calumbæ.

Oct. 28. The diarrhœa being stopped, pulv. hydrargyri c. creta, gr. i. ter die, with magnesiæ carbon. was prescribed. The mother now mentioned that the child had occasionally a staring look, and the right arm trembled.

Nov. 4. There is little change, but the aspect of the child is a little more favourable. Potas. iodid. gr. iii. in aqua, ter die, added.

Nov. 18. The child is better; the face begins to look fleshy. Iodide of pot. continued.

Nov. 27. The child is greatly improved. The staring has left him. The tubercle is healed. Mist. chirettæ ʒ i. three times a day. Two weeks later a relapse. The child had again the staring and frequent convulsions, which increased in severity, and ten days later he died, the iodide of potass. being of no avail.

Post-mortem.—Great emaciation of the whole body. The dura mater is not adherent, a little serum trickles from the cavum cranii in removing the skull. The membranes are not injected; there is a gelatinous yellowish deposit resembling pus between the convolutions near the left fossa Sylvii, and some of the convolutions are conglutinated, and so soft that they break in removing them. Both side ventricles and the fourth ventricle contained a moderate quantity of serum. No tubercles were in the lungs; the heart sound. The liver and spleen were large but not diseased; the mucous mem-

brane of the intestines was a little injected at some places. The causa mortis was the fluid in the brain, brought on by syphilitic cachexia. The effect of the specific treatment was remarkable, but the debility of the patient had gone too far to render it possible to save his life.

MENTAL DISEASES CAUSED BY SYPHILIS.

Already known to Astruc and others, they recently attracted the attention of Griesinger and his pupils. It was formerly believed that syphilitic exostosis caused pain, increasing sometimes to such intensity that the patients lost their senses and became maniacs. At present we also know that softening of the brain causes acute and chronic mental disorders, especially dementia. Acute delirium was often observed in syphilitic patients shortly before death. Idiotism in children is referred to syphilis by Hutchinson; hypochondria verging on melancholia is mentioned by Tanner; high degrees of hysteria by Lanceraux. Epilepsy has been considered under brain diseases.

Some of these disorders exist without material lesions, the treatment of them, with our present knowledge, stands on a safer base than previously.

SPECIAL AFFECTIONS OF THE NERVES.

The nerves have been found atrophied and hypertrophied, pressed upon by gummata, by bony exostoses, and excrescentiæ inside the cavities and nerve-channels,

or at other parts, and degenerated in consequence of caries. Small nerve-tumours have been detected, called syphilomata (Billroth), or neuromata; sometimes formed by interstitial hyperplasia, at others simply encroaching upon the nerve substance. Electricity is a test in some cases for deciding if the lesion is central or peripheric, the excitability being retained in the former, and lost in the latter case.

Of the twelve nerve-pairs taking their origin in the brain, those will first be treated which do not supply the senses; the latter to form a group by themselves.

OCULOMOTORIUS.

No other nerve of the brain gets so often affected as this one. Graefe found that out of sixty paralyses of it, twenty-eight owed their origin to syphilis ("Deutsche Klinik," No. 6, 1861). Cases are related by Ebrard ("Gazette Médicale," 1843, p. 221); Rayer d'Hurtebise ("Thèse de Paris," 1849); also Schützenberger, Yvaren, Dupré, Ricord, Ziemssen, Lacharrière (who found the nerve compressed by a gummous tumour (*l. c.* p. 88); Dixon ("Medical Times," 1838), Virchow, and Graefe.

Of the branches of the nerve, the levator palpebræ superioris is the most frequently attacked. There is either paresis or complete paralysis. In the latter the eyelid drops completely, and falls back into this position whenever raised (ptosis paralytica). The rectus internus is also often attacked, and the eye is turned outwards (strabismus paralyticus). Diplopia occurs whenever the lid is raised. In some cases the branch of the rectus superior was separately affected; and often the

paralysis of the motor branches of the ganglion ciliare leads to mydriasis.*

Headache, giddiness and susurrus aurium often precede or accompany these affections.

NERVUS TROCHLEARIS.

Only two cases are known where it was paralyzed in consequence of syphilis; one by Mackensie ("Eye Diseases," 1855), the other by Graefe ("Archiv f. Ophthalmologie," t. i. 2nd p. pp. 313, 318). There is diplopia, with one image seen lower than the other.

NERVUS TRIGEMINUS.

Cases where it was affected may be found in the works of Waton, Guérard, Rayer, Badin d'Hurtebise, Yvaren, J. Frank, Graffenauer, and Cruveilhier. The various branches of the nerve may suffer in the form of hyperæsthesia and anæsthesia, hypercinesis and acinesis, and therefore very different symptoms be produced. I have known a case of violent pain in the supraorbital region, which troubled the patient, who had ozæna, especially at night. The pain may also have its seat in the nasal or maxillary branches, and nocturnal exacerbations are always suspicious. Anæsthesia seems to be comparatively rare, being more often caused by rheuma.

* In most cases one oculomotorius nerve only is attacked, but sometimes both to a different degree, as in Ziemssen's case (Virchow, "Archiv," Bd. xiii.), where on one side paresis existed, on the other paralysis. At the post-mortem an exudation was found at the base of the brain; both nerves showed fatty degeneration, but one more than the other.

Convulsions of the muscles, provided with branches from the minor portion of the trigeminus, are also related. We find the clonic cramp and trismus (Yvaren) mentioned in literature. Shaking and trembling of the mandibula troubles the patients in the former case.

NERVUS ABDUCENS.

Cases of paralysis by Rayer, Sandras, Mackensie, Knorre ("D. Klinik," 1849, p. 60), Foville, Moissenet, Landry, Beyrar, Luton, Maunier, Reade, Ziemssen. Strabismus paralyticus is the consequence of this affection. The eye is turned inwards, the pupil is however sometimes in the middle line, but cannot be brought further outwards. Mydriasis is mentioned as being sometimes associated with the affection. That nystagmus should be produced by incomplete paralysis (Lanceraux) I think unlikely, because the fluttering of the eyeball arises usually from clonic cramp.

Head symptoms, as giddiness, headache, etc., are found in a similar manner, as in other paralytic states of the eye. Diplopia occurs as often as the patients look in the direction of the paralyzed muscle.

NERVUS FACIALIS.

Cases of paralysis by Ladreit de Lacharrière, Zambaco, Passavant, Ménière and others. The first-named writer was able to collect thirteen cases. Paralysis of both sides is extremely rare. One case is mentioned by O'Connor in the "Dublin Journal," Feb., 1861. Often all the muscles of one side suffer, and then we have the well-known features of the disease—the

face drawn to one side, difficulty of speaking, masticating, blowing, &c.

Of the dyscrasiæ, scrofula is the most frequent cause of paralysis facialis; rarer syphilis and carcinoma, by degeneration of neighbouring organs, membranes, or the bones (Romberg). The rheumatic origin has also to be mentioned, being more frequent than syphilis. In rheumatic paralysis a sudden attack is the rule, in the syphilitic form the exception. Caries of the os petrosum is preceded by violent pains in the internal ear, and may produce paralysis of both the facialis and acuticus. In most cases mentioned as syphilitic hemiplegia, the region of the facialis was affected.

NERVUS GLOSSOPHARYNGEUS, VAGUS, AND ACCESSORIUS WILLISII.

They may, of course, become affected by syphilis; but no reliable cases are to be found in medical literature.

As regards the vagus especially, I scarcely doubt that it is oftener affected by syphilis than we suppose. Its disease may be associated with exudation at the base, near the pons Varolii, or a gummous tumour, and some of the well-known nervous disorders may result, such as gastrodynia, neuralgia, spasmus, bronchitis, angina pectoris, paralysis of the vocal chords, or one of them (nervus recurrens); of which paralysis, I believe, Türck gives a case. Through this syphilis may lead to death.

NERVUS HYPOGLOSSUS.

This nerve is very rarely affected. I had a case which, I believe, was one of syphilitic paresis of the hypoglossus.

A woman (35) applied for catarrh, and I noticed that the protruded tongue was turned a little to the right. It was further elucidated that she had some difficulty in masticating, as she could not turn the food so readily from the right to the left as in the opposite direction. She also suffered from headache. There was no difficulty of speech. She did not feel greatly inconvenienced by this affection.

AFFECTIONS OF THE SENSES.

The Vision affected.—Syphilitic interstitial keratitis is admitted by experienced ophthalmologists; disturbances of vision and various anatomical lesions of the membranes of the eye are also recorded.

Amblyopia and Amaurosis syphilitica.—They were observed without lesion (Zambaco) and with morbid changes. Retinitis and chorioiditis syphilitica are described by Graefe, Desmarres, and others, their principal symptoms being impaired sight. This was often of a passing character (Zambaco) often persistent, with black spots, shreds, or veils before the eye,—photopsy, &c. In one case Zambaco detected, by the ophthalmoscope, numerous small deposits in the fundus oculi, and the pigment was missing in places. He treated it successfully by specific remedies, as he found afterwards the deposits absorbed. The ophthalmoscope is invaluable for the diagnosis; Graefe states that he could perceive the papilla of the optic nerve atrophied; which cases he considers incurable. Liebreich described the altered condition of the blood-vessels in these instances,—fatty degeneration, &c. Pouching of the membranes by exudation (*épanchement*) is also referred to syphilis (Hart).

The optic nerve can either be affected where it takes its origin in the brain, or before it leaves the cavum cranii. A lymphatic exudation was found compressing the chiasma (Graefe) tumours which had reduced the nerve to a small size by pressure (Kergaradec and Bayle). Dittrich found the optic nerve reduced to a small thread. Courtin found it transformed into a pulpy mass, scarcely distinguishable from the softened membranes.

Lastly, the osseous structure, through or near which the nerve passes, may suffer from syphilis, and draw it into the sphere of disorganization. Especially exostosis of the orbita and caries of the bones, by which it is formed, are recorded.

The Hearing affected.—Impairment of hearing is not so rare in syphilis; but it is often passing, as in catarrh, where the mucous membrane of the tuba Eustachii is affected. But also complete deafness is caused by it. In some cases of this, nothing morbid could be detected by a careful examination of the parts. Complete deafness existed in a case of Zambaco, and disappeared with the other symptoms under an antisyphilitic treatment. The different parts of the ear, or the auditory nerve, may be affected. Therefore lesions may be found in the external ear, the meatus auditorius, the internal ear, or the intermediate structures. Ulcers and pustules were noticed in the meatus (Triquet). Hinton (Guy's Hospital Reports, 1866) considers calcareous deposits in the membrana tympani, causing deafness, originated by syphilis. Scars and obliterations of the tuba Eustachii, swelling, or destruction of the tonsils, may also seriously interfere with the hearing. The inner ear was affected in cases of Boerhaave (1793), Larrey, Itard (1821),

Landry. The nerve may be affected where it has its roots in the brain (Vidal) or in its course, near the base (Ziemssen), in the pars petrosa (Rayer); it may be atrophied or affected with amyloid degeneration (Voltolini). Hutchinson maintains that deafness is very common in syphilitic children.

The diagnosis from scrofulous disease is not always easy, and depends greatly upon the presence of other symptoms of blood-crasis. It is, however, very important to discern the nature of the disease, as only prompt treatment prevents disastrous consequences. Many cases of so-called nervous deafness may owe their origin to imperfect diagnosis of an early stage of the disease.

Anosmia Syphilitica.—In ozæna the sense of smelling gets impaired; also in all cases of chronic syphilitic affections of the Schneiderian membrane without bone affection. Vegetations, condylomata, may assume such proportions that they press on the nerves. Gummata, or exudata at the base, may also effect pressure.

Persons with so-called saddle or syphilitic nose usually smell badly.

The sense of smell is tested by strong smelling substances, which are brought alternately to the nasal openings.

As ozæna scrofulosa and scrofulous affections of the Schneiderian membrane also lead to impairment of smell, this cause must be excluded, and therefore the historia morbi and morbid diathesis closely investigated.

The Sense of Taste affected.—The taste rarely suffers in consequence of syphilis. It may happen through gummata (Ricord) or deep ulceration of the tongue. But when they are cured, the sense of taste is recovered. Unless the cicatrization leads to a great loss of sub-

stance, enlargement and induration of the glandula submaxillaris may affect the nervus lingualis in its transit. In a case of Zambaco (*l. c.* p. 251) it is stated that the left half of the tongue was insensible to touch; but nothing is said about the taste, which in such cases also gets impaired.

SYPHILIS OF THE SPINAL CORD.

The cases are not numerous, but sufficient to prove that syphilis affects the different component parts of this organ. The substance, the membranes, and the osseous surroundings, may become the seat of lesion.

The membranes were found thickened, adherent to each other and the substance (Zambaco, *l. c.* p. 251, and Westphal), the dura meninx being more frequently attacked (pachymeningitis spinalis), and small tumours were imbedded in them (Voillemier, Virchow).

The substance may show the diffuse or circumscript form of the disease. Lanceraux relates a very striking case of sclerosis of the medulla, which was under Dr. Potain's care. A woman was admitted into the Hôtel Dieu, who complained of violent headache, which was considered of syphilitic origin, on account of lymphatic swellings of the neck. She was in the fifth month of pregnancy, and delivered of twins a month after admission; but they lived only three days. They did not present any symptoms of syphilitic disease during the short term of their existence, but one was extremely weak. At the post-mortem of one, two small tumours were found in the liver, and the spinal marrow healthy, the medulla of the other was reduced in size, hard, the grey and white

substance not being distinguishable and very similar to the texture of fibrous tendon; the colour, however, was of a reddish-grey. No nerve-cells or nerve-fibres could be discerned under the microscope. The membranes were healthy.

Three cases of tumours of the cord are related, one by McDowell; the growth was of considerable hardness, the size of a pea, and there was softening of the neighbouring substance. No other organ, however, being affected with syphilis, the case does not seem beyond doubt. That of Wilks is more reliable, as a cicatrix was found in the liver. Another case is mentioned by Wagner ("Archiv der Heilkunde," 1863), where a tumour with a yellow nucleus had its seat in the medulla oblongata, and a similar one in the cerebellum. Zambaco had a case of convulsions of the muscles of the chest and abdomen, where he supposed the existence of a tumour at the height of the first vertebra of the neck, the patient suffering from ozæna syphilitica, and pain at the mentioned vèrtebra.

Syphilitic caries of the surrounding bones is more frequent, and causes various symptoms, depending upon its seat. Local pain is usually present, increased at night; sometimes the feeling of a tight band round the chest or abdomen. Hyperæsthesia, anæsthesia, hypercinesis, and acinesis are caused in various parts of the body and limbs, sometimes of an indistinct and passing nature.

The lower limbs become paralyzed where the disease is not arrested; the arms were also affected (Zambaco). The progress of the disease is often arrested for a time, the symptoms are more favourable,—there seems to be a hope of improvement; but afterwards the affection takes

a bad turn, and changes are frequent: the disease may extend over a considerable period.

The diagnosis is difficult, unless the symptoms of syphilis are very evident. Locomotor ataxy is most likely to be confounded with the affection, whenever paraplegia exists to a greater extent. I do not find it stated by authors who had such cases, whether patients when closing the eyes began to sway backwards and forwards. The course both diseases follow is different. In ataxy there are not the fluctuations and temporary improvements as in the syphilitic form. It is however suggested by Lanceraux that syphilis may be a cause of amyloid degeneration of the substance; and how this should be diagnosed from the state found in ataxy I know not. Coexisting syphilitic tertiary or late secondary symptoms, are certainly most valuable criteria for the diagnosis. I believe that diseases of the spinal marrow, associated with structural lesions (for instance, in paralysis of the insane) are at present the subjects of investigation by careful observers.

THE SPINAL NERVES AFFECTED.

They may each of them become affected singly, or in groups. For frequency, the nervus ischiadicus takes the same place among the spinal nerves as the oculomotorius among those of the brain.

The first of the nerves of the neck, the suboccipitalis, was affected in a case of Zambaco. A man had violent lancing pains at both sides of the anuch, especially at night, and quite superficial; the region of the occiput was very painful to touch; there was a syphi-

litic tubercle of the tongue. Yvaren had a similar case.

I had a man (Hemmington, æt. 45) under treatment at the Dispensary, who had tertiary symptoms, especially tophi at the tibia, and was very cachectic. He had pain at symmetrical places of the occiput, increasing to such a degree at night that he suffered from sleeplessness. They had troubled him for five months, but left him with the other symptoms, improving under the usual treatment by iodide of potassium.

The cutaneous nerves of the shoulder, as also the brachial plexus, were affected in a case of Schützenberger; at the same time, convulsions of the sternocleido-mastoideus, and rarer of the flexores brachii, were noticed. Yvaren had also cases of hyperæsthesia of the brachial nerves. Intercostal neuralgia, caused by syphilis, was observed by Ebrard, Yvaren, and some previous writers.

Syphilitic sciatica was treated by Bruneau, Yvaren, Vandekeere, Le Gros, Lanceraux, and others, and cured by iodide of potassium. Zambaco relates the case of a patient, 35, who died afterwards. He had periostosis of the breast-bone and os pubis, and there was an ulcerating gummous tumour at the side of the chest. The hyperæsthesia of the nervus ischiadicus was caused by a small gummatum, nearly the size of a hazel-nut, found at the post-mortem imbedded in the left buttock, and pressing on the nerve.

Vandekeere relates a case of hyperæsthesia ilio-scrotalis. Partial paralysis, especially of the lower limbs, has most likely to be referred to syphilis. Cases of this kind, where no post-mortem was made, but the beneficial influence of iodide of potassium was remarkable, are

vulsions) of the left arm, which have not troubled him lately. At present he often has headache at night, sometimes giddiness; starts in his sleep, and feels a numbness in his right arm. The face is not much disfigured —a little drawn to the side; the right cheek may be blown a little; the muscles of the eye are free. The spine is painful when touched, from the seventh thoracic process downwards for five vertebræ. The left tonsil is puckered, has a small whitish spot, and behind it a yellow line is noticed in a fold of the mucous membrane. Patient emphatically denies syphilitic infection; he has no teeth; his fingers are bulby, especially those of the right hand; this the patient ascribes to his work. The spleen was not enlarged.

There was no doubt, from the combination and variety of the symptoms, the course of the disease, and the throat affection, that the patient had syphilitic cerebro-spinal meningitis, though it was a mystery how he was infected. The great success of iodide of potassium confirmed the diagnosis, though in this case the patient came into treatment at a time when the symptoms began to abate, as is frequent with syphilis. However, the numbness of the arm was gone, and the face all right four weeks later. The patient is still under observation.

DISEASES OF THE ORGANS OF RESPIRATION AND CIRCULATION.

DISEASE OF THE LARYNX AND TRACHEA.

There is a superficial and a deep-seated affection. The former, which is often nothing but congestion or erythema,

frequently accompanies the secondary symptoms, especially the early ones; it is often caused by careless exposure to the influence of inclement weather. The second form belongs generally to the period of the tertiary or graver symptoms. It was known to the physicians of the past century, and a careful description of the anatomical exhibition is given by Rokitanski ("Lehrbuch," 3rd ed., Bd. 3). He says, that there are ulcers resembling chancres, and having their seat in the upper part of the larynx. The development of ulcers is explained in different ways. It is believed that occasionally the first form of the disease gets much worse by neglect, and passes from congestion to inflammation and ulceration. The presence of ulceration may be inferred from ulcers existing in the throat. It is also stated that persons who have a very weak constitution are more frequently attacked by ulcerating syphilitic laryngitis, or, as it was also called formerly, syphilitic phthisis of the larynx. A more recent opinion, first ably expressed, I believe, by Gerhardt and Roth, is, that ulcers frequently originate in the softening of gummata. The existence of the latter was not known before the laryngoscope was more commonly used for exploring the larynx. But now we have only to open any work on the laryngoscope to find gummata described. (See, for instance, Türck, Atlas, plates xx.–xxiv.) Türck is opposed to this view, as he had two cases of gummata where no suppuration supervened. In one (Case 129), he observed an absorption by the use of iodide of potassium. It is, however, very plausible that gummata of the larynx should undergo the same changes in the larynx as elsewhere; and though ulceration is generally caused without them, they occasionally give rise to it by becoming softened.

The extent of the ulceration is often fearful, as may be concluded from the plates of the above-mentioned works. Considerable loss of substance is caused, and portions of the larynx become necrotic. Sometimes the epiglottis is destroyed; at others, the vocal chords or the cartilagines arythenoideæ. The epiglottis often gets œdematous. It has been found so in adults and newborn children (Sestier). The ulcers heal by cicatrization. The cicatrices often occur crosswise, generally of a callous hardness, and may cause stenosis of the larynx, as in a case of Virchow (*l. c.*, Case 11), or dysphagia, by constriction of the œsophagus.

Symptoms.—The patients have an uneasy sensation in the throat, as of a foreign body, and are often compelled to cough. Sometimes pain exists in swallowing, as the parts are irritated by the constriction of the œsophagus. There is hoarseness often to a high degree. When the epiglottis is swollen, the breathing becomes interfered with. The laryngoscope is a capital means for making sure of the existing changes. The expectoration consists of mucus, and sometimes a little blood and elastic tissue, and bits of cartilage may be coughed up when necrosis has set in. Aphonia or aphasia is sometimes produced. Such a case Türck relates on p. 379 of his work. "Maria D., 24, had a syphilitic healing ulcer of the left tonsil, swelled lymphatic glands, and leucorrhœa; she was hoarse previously, and also had a cough. For two months she suffered from aphonia. Examined with laryngoscope. The vocal chords appeared as if cauterized and wrinkled. When patient tried to vocalize, the chords did not move properly, but remained separated one-tenth of an inch. She was, however, cured in a fortnight."

The state of cachexia is always considerable. Often

the patients retain an alteration of the voice after the ulcers are healed.

Diagnosis.—Phthisis laryngea causes similar symptoms; but usually the lungs are affected; this can be found by percussion and auscultation. Also fever is present at an early stage, which is exceedingly rare in syphilis. There are, moreover, the matutinal sweats and diarrhœa when the disease is advanced. The co-existence of other syphilitic symptoms, and the result of the laryngoscopic experiment decide the question. Demarquay believes that in ulcerating syphilis the larynx gets immobile, so that it does not move during speech or deglutition, and that it altogether stands lower. He often found that the patients made a hissing noise with breathing.

The prognosis is very unfavourable in extreme cases, as death has happened by destruction of parts of the organ, and stenosis is frequent. Where the disease is less advanced, it is amenable to treatment as other syphilitic affections. The treatment is a general and a local one. The latter is at present *sub judice*. Numerous are the atomized fluids which are proposed for inhalation or insufflation. Solution of tannin, tincture of opium, acetate of lead, hydrochlorate of ammonia, and nitrate of silver, are recommended. Ingenious instruments for local applications and excision of tumours were invented, as seen in Türck's or Gibbs's work.

The *trachea* may also become the seat of syphilis. But it is strange that the inflammation and ulceration do not descend in a regular manner. The upper part of the trachea is generally free; the ulcers are found in the lower one, the larynx being also ulcerated (Türck). The affection of the trachéa is, however, rare,

and the cases known at present may be numbered. The ulcers have the same character as those of the larynx (Türck).

One of the most characteristic symptoms is siffling with the breathing (*véritable cornage,* Lanceraux); but the voice is not altered; pain and sensation of a foreign body in the windpipe, and later, attacks of suffocation without pulmonary signs. The prognosis is unfavourable, and death not rare. When the patients recover, there still is danger from cicatrization causing stenosis of the windpipe.

A case of compression by a large syphilitic growth ending fatally, and another of stenosis (Case 12) of the trachea, were recently described by Moxon.

AFFECTION OF THE GLANDULA THYREOIDEA.

The gland has never been found in such a manner hypertrophied as to compress the larynx; but it is sometimes degenerated in syphilitic patients. The tissue gets hard, and coloured yellow here and there, and the size of the gland is increased.

THE THYMUS GLAND

has been found affected in hereditary syphilis. Attention was first directed to abscesses of this organ by Dubois ("Gaz. Méd.," 1850). He detected them in a number of infants whose parents were affected with syphilis. Other observers (Hecker, Weber, Braun, Späth, Desruelles) confirmed his statement.

SYPHILIS OF THE LUNGS.

Several writers who lived at the end of the last century believed in an affection of the lungs caused by syphilis, which they called syphilitic phthisis where they supposed ulceration led to destruction of the organ. Swediaur wrote about it in 1801; Saucerotte and Schroeder van der Kolk a little later. But at present we are so far advanced that we know syphilis to cause very variable morbid changes.

The bronchi have been found affected, not only the larger but also the smaller ones, and the tissue in a diffuse and a circumscript form. In the latter case partial induration and hard substances were found, or tumours which had the character of gummata. Abscess and gangrene are also referred to syphilis, and the pleuræ have no immunity from becoming affected.

BRONCHITIS SYPHILITICA.

Though the term bronchitis is adopted, the disease is generally not of an inflammatory character. Acute syphilitic bronchitis, as described by Stokes, must be very rare. The slightest form of the affection is a state of congestion and erythema of the mucous membrane. It is likely to be produced by an occasional cold at an early period of the constitutional symptoms, and more frequently in children with hereditary disease than in adults. To diagnose this from a common cold or slight bronchitis, we have to rely on co-existing symptoms of syphilis. It seems also that substernal pain is more troublesome,

especially at night, and expectoration very slight. In children considerable dyspnœa exists, without heat of skin; and if the affection is allowed to extend, a siffling noise occurs with the breathing.

I had such a case for several months under observation. Henry Jones, a child nine months old, had contracted syphilis from being suckled by a stranger, who came over on a visit from France, and to whom the mother confided the child but twice. He was brought to me suffering, as the mother thought, from a cold. The noise, however, which he made in breathing attracted at once my attention, and on closer examination I found a few spots of syphilitic roseola. I was informed that both parents were healthy, and soon detected the source of the disease in a chancre which occupied the seat of the frenulum linguæ, which was destroyed. There was a small ulcer at the right tonsil.

I examined the chest carefully at the second visit, and could not detect an abnormal sound of percussion, but there were rhonchi in the right middle lobe, and the respiratory murmur feeble at this place. The child was ordered hydrargyr. c. creta, gr. i. three times a day, with a little carbonate of magnesia.

Two weeks later the symptoms still existed, the cough was even more troublesome, and the mother assured me that it was *whooping*, and she repeated the assertion later. She was also able now to remove slime which the little patient coughed up. The child did not look very cachectic or exhausted, but the course of the disease was certainly different from common bronchitis.

Six weeks after the child was first presented, and after taking expectorants and tonics, the little patient seemed to have got rid of the cough and dyspnœa. The spots

were scarcely visible, and disappeared completely a little later.

Most likely the disease would have taken a more serious turn if specific remedies had not been interposed.

At a later stage, the disease, if not relieved, leads to ulceration of the mucous membrane. The ulcers may have their seat in the larger bronchi, or in the smaller ones. The former is rare, but the latter even rarer. Schroeder van der Kolk is said to have had a case of the former, and for an authority for the latter we have to go back to Sadowsky, of Prague. Lanceraux has no doubt of ulceration of the smaller bronchi being occasionally caused by syphilis. The symptoms are somewhat obscure. A peculiar constriction behind the sternum, especially at night; a dry cough, which later becomes moist; siffling with the breathing, and dyspnœa without fever, are mentioned. Pain behind the breast-bone, especially at night, I found sometimes in syphilitic patients; but it disappeared before more serious symptoms set in. Spitting of blood is also mentioned as a symptom (Lanceraux), and where it exists, it makes the diagnosis more uncertain.

I had such a case for a long time under observation at the Dispensary. The patient (32) had ozæna syphilitica and saddle-nose. She had been infected five years before, and four years previously had hæmoptoë and occasional symptoms of constitutional syphilis. Cicatrices were in the throat. She complained of constriction of the chest, especially at night, and this was a *constant* symptom. She expectorated but little. A careful examination of the lungs had no particular result. Everything was normal, only slight râles were in the middle lobes. The patient was thin and pale, but

not emaciated. She had a pale cachectic look, unlike that of persons affected with tuberculous disease. The iodide of potassium seemed of very little effect for five weeks; but at last she began to feel easier, whether by taking this remedy or not I cannot decide. Though I had doubts in the beginning about the nature of the disease, especially on account of the blood-spiting some years previously, I became more and more satisfied that it was a syphilitic affection of the larger bronchi; possibly combined with partial stenosis from a former attack. The capacity of the lungs tested by the spirometer was not diminished.

Bronchorrhœa syphilitica.—Phthisis pituitosa syphilitica is mentioned in handbooks of medicine; for instance Caunstadt (3rd edition, 1843, Bd. iii. p. 194); and it is stated that the expectoration is excessive and often foul-smelling. It may possibly be caused by ulceration of the bronchi, but is certainly not often found in practice.

Stenosis of the Bronchi.—Ulceration of the bronchi, or small softening gummata of the same, may lead to cicatrization and stenosis with dilatation above. Cicatrices have been found at the post-mortem, and though their diagnosis is rather difficult and perhaps scarcely possible during life, it must be taken into consideration, as the knowledge of this possible state must prevent us from tormenting the patients with remedies.

Where patients suffering from constitutional syphilis complain of chest symptoms, not explainable by the usual affections, and resisting the usual remedies, where these symptoms are permanent and little influenced by

change of the weather, and where they are the sequelæ of preceding bronchitis, we may with some reason diagnose stenosis or partial stenosis of larger bronchi.

CHRONIC SYPHILITIC INTERSTITIAL PNEUMONIA.

Acute pneumonia is, so far as our present knowledge goes, not caused by syphilis, but a state resembling chronic inflammation of the lung-tissue arising from it. It is likely that an exudation and infiltration of a rigid material into the lung-tissue takes place, leading to condensation and subsequent alterations. Reliable authors state it as characteristic of all internal syphilitic lesions, that they take place in patches; and this is true to some extent as regards the lungs. There is, however, a diffuse affection.

This is observed in children, and called white hepatization, from the light colour usually found. Observations are recorded by Robin and Lorain, Hecker, Virchow, Howitz, Weber, Ranvier, and Portal. All the descriptions agree in stating the volume and weight of the lungs increased. When the thorax is opened, the lungs do not collapse, but are seen filling the cavum thoracis and with depressions from the ribs on their surface. They sink in water, even when small slices are submerged, contain little air and a fluid not easily pressed out. They exhibit a uniform white colour on a section, with a tinge of red (flesh-colour).

The result of microscopical examination is variously described by different authorities. Virchow ("Archiv," Bd. i. S. 146) found the lung vesicles filled with masses of

epithelium, which sometimes was fatty. Lorain and Robin (Epithelioma syphiliticum, "Gaz. Médicale de Paris," 1855, No. 12) found similar matter in the smallest bronchi; but Wagner could not brush out anything under the microscope, and considered the whole as an interalveolar hypertrophy rich in cells ("Archiv der Heilkunde," Band iv. p. 359). The children who were the subjects examined, with respect to this peculiar affection, had mostly pemphigus. The symptoms were those of condensation, with difficult siffling breathing.

In adults a diffuse form is also observed; but there is no case where it existed to such an extent as in children, and is of a somewhat different character, the tissue being of a brownish or darkish colour. Still it has been found occupying the greater part of a lobe, but more frequently a small part only. In a case of Moxon (*l. c.*, 3) a considerable part of an upper lobe showed hard hepatization. Beer found the tissue of a tendinous hardness and brownish colour. In one case the apex was affected to the extent of an apple, in another one-third of a lower lobe was hard and indurated. Much fat and pigment were contained in the indurated interstitial tissue. We must suppose that the difference in the colour in adults and children is explained by the absence of pigment in the latter, the colouring matter being deposited in the lungs in the course of time, and most likely increased to an abnormal extent by the state of irritation of the lungs. Minute portions of such lungs should be tested for amyloid reaction.

Coexisting with the induration, small tumours (cheesy nodules) were found: the induration leads rarely to the formation of abscesses. This is explained by the slight tendency of such products to soften, but rather to con-

tract and harden. A remarkable case is related by Vidal (de Cassis).

V——, aged 45, needlewoman, was admitted into the hospital (de la Clinique) the 1st April, 1853. Her respiration was short, anxious, and painful, following the costo-superior type, the base of the lungs immobile, and made one think that an obstacle was opposed to the entrance of air. This was confirmed by the percussion, which gave a dull sound, more considerable, however, at the left than the right, and increased loudness at the upper part: there was bronchial respiration, pulse 65. No heat of the skin, tongue rosed, face slightly congested, no cephalalgia; intellectual faculties sound. She had spit a little blood two or three months ago; till then she had no chest complaint,—no expectoration, no cough, no fever night or day,—no wasting, no tuberculous inheritance. Walking and ascending the stairs had for some months caused a great uneasiness and palpitations to the patient. She had traces of ecthyma on the body and of syphilitic rupia, which indicated a very inveterate character of the syphilitic disease. Thirteen years ago, when nursing her baby, she consented to nurse a little girl who had ulcerated lips and "plaques muqueuses."

Soon sores made their appearance at the nipple, and a physician who saw her at the time gave a certificate that she was infected by the child. She was then subjected to mercurial treatment. The disease was latent for two years; it then broke out with great force. Mucous tubercles and sores appeared at the legs; afterwards rupia, the unextinguishable traces of which remained;—osteocopic pains.

She died four days after admission, the dyspnœa and

palpitations increasing; at last she became asphyctic. She received iodide of potassium and antispasmodics.

Post-mortem made thirty-six hours after death. Nothing noticeable in the heart, abdomen, or brain; the lungs were the only cause of death. The trachea was filled with a spumous fluid, the mucous membrane neither congested nor ulcerated. Cutting into the bronchi at the posterior part, those of the lower lobes were found surrounded by an indurated mass of grey-bluish (*gris-bleuâtre*) colour, having a certain analogy with the green sea marmor:* this colour was darker at the left than the right. This mass had replaced the lung-tissue, separating the air-divisions one from another: it was very resistent to pressure; one should say a periostosis. The rest of the lung was soft to pressure, elastic, deepening under the finger, and congested. There was no trace of tubercle, neither in the apex nor in the base, nor in any other part of the body. The bronchial glands were black and indurated, without tendency to suppuration. The pneumogastric nerves were plunged into the indurated tissue, which made their dissection nearly impossible.

This case is adduced by some authors (Lanceraux) as a good specimen of syphilitic lung-disease. But though I do not doubt the connection of the disease with syphilis, this connection is not so clearly proved as in other more recent cases of Beer. It was a case of chronic interstitial (fibrous) pneumonia; the person had primary syphilis thirteen, and secondary symptoms eleven years

* "Le marbre vert de mer." As the colour has just been described as bluish-grey, there could not be a great analogy with green sea marmor. ...reover, the green colour of the indurated tissue would be very un...al, as other observers never found it, but mention a brownish or ... colour. The green colour is more often found in tuberculosis.

previously; but at the time of the lung affection she showed only marks of the venereous disease. Cachexia syphilitica was also present, but no other organ was found affected at the post-mortem, as was observed in Beer's cases.

GUMMATA OF THE LUNGS.

Since Ricord ("Clinique," pl. 28), cases of these tumours have been recorded by Budd, Dumoulin, Wilks, Spencer Wells, Lebert ("Traité d'Anatomie pathol.," i. pl. xcii. figs. 3, 4) Förster ("Würzburger medic. Zeitschr.," Bd. iv. p. 4), Lanceraux, Hutchinson and Jackson, Wagner and Beer ("Käseknoten," *l.c.*, p. 106). They had their seats in different parts of the respiratory organs, without preferring any particular one. Their size varied from a lentil to a large walnut, and the colour was greyish, yellowish, or sulphur-yellow. They were generally hard, homogeneous (Beer), sometimes brittle, at others cheesy or milky, and surrounded by an elastic capsule. The tissue in their neighbourhood was often indurated.

Cicatrices in the lungs are often caused by syphilis, as Virchow and Lanceraux have no doubt, and are difficult to diagnose from tuberculous ones. They contain sometimes a dry brittle mass, the residuum of a gummatum which has been partially absorbed. They send tendinous rays into the lung-tissue, which have some likeness to the fibrous bands observed in coal-miners' and grinders' lungs.

The contents of the gummata generally appear as a dry mass without blood-vessels. They are surrounded by a dense fibrous capsule, and generally of a roundish form. The gummata contain more fibres of connective tissue

than tubercle, and the nodes they are composed of are of a larger size than those of tubercles; they are also more rich in fat. Tubercles are, moreover, generally accompanied by tuberculous granulations.

Symptoms.—Gummata, unless accompanied by inflammation, are not likely to produce remarkable symptoms, and may exist in many cases without being suspected. The physical examination of the chest may detect larger ones by circumscript dulness of the percussion-sound when they are near the surface. Rhonchi are caused by affections of the neighbouring bronchi. It is only at a later stage, when the gummata soften, and their contents are expectorated, that they cause unmistakable symptoms. These cases must be very rare; but it is easily understood that the expectorated substances give valuable indicia of the state of the lungs.

Cough is present, though, of course, not troublesome as long as the tumour does not communicate with a bronchus. It is dry at first, and becomes combined with moist and purulent expectoration afterwards.

Hæmoptysis.—It seems that this lung disease, as observed at the present time, is of a milder type than it was at the time of Astruc, and blood-spitting is rare, but was noticed by Leudet, Lanceraux, and Zambaco. As considerable destructions are caused by gummata (Virchow, Wilks, Moxon), we cannot wonder that blood is occasionally expectorated; but the rarity of the affection precludes extensive observations at the bedside. The microscopical examination of the sputa in such cases must be of value.

Fever.—It is of a different character, if present at all, than in inflammatory or tuberculous disease. The temperature of the body is not increased, the urine not

coloured; the patient looks pale, and not feverish. When abscesses form, asthenic fever may set in.

Sweats.—Older observers (Astruc) state that syphilitic phthisis is accompanied by them; but then they are not of a matutinal character, as in tuberculous disease, and they are nothing but signs of extreme weakness, appearing at uncertain times.

DIAGNOSIS OF THE GUMMATA.

Tuberculous disease and cancer have to be excluded. As for the latter, it is very rare; it does not exist without attacking the neighbouring glands or other organs and does not occur before a certain age; causing lancing pains, and makes much faster progress than syphilis, which often halts and gets better for a time. It causes more perceptible dulness of sound, and more alterations of the respiratory murmurs than gummata. The dyspnœa and the aspect of the patient are more characteristic.

But it must be confessed that there are cases where a most minute examination and weighing of all the circumstances does not enable the most experienced observer to come to a decided opinion.

Tuberculous disease may occur in syphilitic patients, and *vice versâ*, which is explained by the frequency of the disease; and then the symptoms of both are present.

Prognosis.—Gummata of the lungs are only found in advanced cases of syphilis, and therefore give an unfavourable prognosis. That even vomicæ caused by them may heal, is however certain from the cicatrices found in the lungs.

Treatment.—The cases are so rare that we have not much experience about the remedies for this affection. But it is likely that we have not to rely only on specific ones, but also on tonics.

ABSCESSES AND GANGRENE.

As already mentioned, interstitial pneumonia, as well as gummata, may lead to softening and excavation of the lung-tissue, singly or combined. In several cases related by Lanceraux, abscesses were formed, and in three by Moxon, gangrene.

The following case is related by Lanceraux:—

Syphilitic antecedentia of the father likely.—Development of the generative organs arrested; peculiar formation of teeth and nose. Dolores ostëocopi, alopecia, sore throat, deafness, absence of menstruation, blood-spitting, signs of lung excavations.—Autopsy. Caverns in the right lung, with pneumonia in the neighbourhood; cicatrices of the liver.

R——, Louise, 41, washerwoman, relates that the father had a bad disease, which she thinks was syphilis; he was ill shortly before she was born, and she has no doubt that he was the cause of all the sufferings she had experienced from an early age. Her mother died of cholera, after suffering from pains in her limbs and joints, and swellings of the latter for a year previously. Of twelve children, three only are alive; all the others died before they were three or four years old, but of what diseases she could not state. She had diseased eyes when eight or nine years old, and became nearly blind.

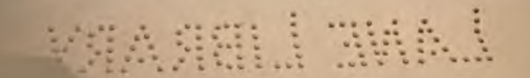
Later, she had a throat affection, and became nearly aphonic. When fourteen years old she became deaf, but got better; afterwards had a relapse, and was then permanently deaf. The menstruation did not appear. When 22 years old she had violent headaches, and lost her hair. Up to thirty she enjoyed passable health, suffering however from indigestion, giddiness, but no loss of consciousness, or convulsions. In April, 1859, she had pleurisy, but soon was able to work again. In June she was obliged to enter the hospital. She had pain in the back, and a few days later hæmoptysis. This returned at the end of the year, and in the beginning of 1860. In June, 1860, she had hæmorrhage from the lungs, losing nearly two pints in twenty-four hours. In October of the same year she was received into the hospital of La Pitié, where she was examined by M. Lanceraux.

She was a short woman, little developed. The breasts were like those of a child; the vagina scarcely permitted the introduction of the small finger; the hymen hardly existed, but there was no trace of violation. Voice hoarse and nasal, teeth small, bicuspidated, nose flat near the root, head nearly bald, a few and sparse hairs, pale without being thin. She had recently spit blood, and complained of pain in the right shoulder and arm, and uneasiness of the stomach. She was so deaf that the questions had to be put in writing. Nothing could be detected by examining the ears.

The chest was examined at a place above and the inner side of the nipple; the percussion sound was obscure or dull to the extent of several centimètres; at this place the respiration was jerking; a little lower down it had a hollow timbre, sometimes moist, and con-

sonant rhonchi. At the back the same signs, a little lower. Cough frequent, whooping, with abundant expectoration, and often blood. The heart was sound, the kidneys, spleen, and liver did not seem affected. The intellect of the patient was sound, but the sense of smelling lost almost entirely. This had been so for the last ten years. Digestion disturbed; fever sometimes, especially at night. In January she was discharged, little change being effected during her stay in the hospital. Re-admitted in March; she was thinner; the cough was always present and usually sanguinolent. Consonant respiration in front and behind to a considerable extent; also dulness of percussion, and large bubbling râles. The left lung was not abnormal. The liver reached over the costal margin; the heart was sound. The fever, moderate at first, increased in intensity; the appetite sometimes nearly absent; there was diarrhœa; and the wasting continued. The patient got more and more exhausted, fell into marasmus, and died the 20th March, 1861.

Post-mortem.—There was slight œdema of the legs. The brain did not offer anything worth notice. The left lung was intact, or only œdematous; the right showed an ulceration, which occupied three lobes. The inferior and superior ones, however, were not occupied to their whole extent; the apex was still a little crepitant, but the lower part indurated: several excavations were found here. Similar ones were found in the middle and upper part of the lower lobe, separated by septa, which were often incomplete, or fibrous bands more or less extended; the largest might contain a pigeon's egg. They had perfectly smooth and polished walls, were situated in a grey tissue, ich was firm and resistant to pressure, and did not



break or retain impressions. Nowhere was tubercle found, nor were the cavities of the nature of tuberculous ones.

The liver was enlarged, had the colour of a nutmeg liver, and there were extensive cicatrices, and the cells showed fatty degeneration. The spleen and thyrëoid gland were a little hypertrophied, the kidneys sound, the ovaries and uterus as little developed as in a child ten years old, corresponding to the remarkable small size of the vulva and vagina.

That this patient had the syphilitic taint must be supposed from the history of the case, the early death of her brothers and sisters, the arrested development of the female organs, and the character of the lesions found after death.

Syphilis admitted, it is rational to consider the lung disease, as also the liver disease, directly caused by it.

Another case is related by Lanceraux, where abscesses and cheesy nodules were found after death in a man (42) who had syphilis, periostosis tibiæ, a wasted testicle, and brain symptoms, the cause of which latter was detected in a slight alteration of the substance of the brain.

Pleuritis.—Circumscribed pleurisy is proved to have been present during life by the adherences found in the bodies of those who had syphilitic abscesses. There is no instance in literature of extended pleurisy leading to death by effusion of fluid.

DIAGNOSIS OF SYPHILITIC AFFECTONS OF THE LUNGS.

The *diagnosis* of bronchitis, bronchorrhœa, bronchial ulceration, or bronchostenosis, from pneumonia, gummata,

diagnosis is based on the absence of the signs of consolidation of the lung-tissue, and also on the different results of the spirometric experiment. The diagnosis of chronic pneumonia from gummata is difficult, but the dulness of percussion is more marked and extended in the former, as also the bronchial respiration. Abscesses are recognised by the puriform, sometimes sanguinolent, expectoration, and gangrene by the putrid smell: elastic fibres may be found in both.

The diagnosis from tuberculous disease is based on the history of the case, the preference with which the latter malady invades the apices of the lungs, inherited disposition, the slow course of syphilitic disease, the difference of the aspect of the patient, the rarity of fever in syphilis. The red lines of the gums in phthisis, and the form of the nails and fingers (syphilitic dactylitis) may in some cases contribute to decide the question.

The *prognosis* is not favourable, excepting the slight affections of the mucous membranes. Many cases of cure of so-called syphilitic phthisis are recorded, but they are not all reliable. The frequently-found cicatrices are also a proof that the syphilitic affections do not always lead to a fatal termination. But, on the other hand, the syphilitic disease of the lungs is rare without other organs being simultaneously affected, and therefore the constitution thoroughly shaken.

Treatment.—Where a clear diagnosis may be arrived at, a specific treatment may be found successful; at the same time the general indications of the case must lead our judgment in the choice of remedies.

AFFECTIONS OF THE HEART.

As early as 1842 Ricord gave a coloured drawing of a heart affected by syphilis ("Clinique Iconog.," pl. xxx.); and since then a few other authors have published descriptions; as Lebert (Atlas), Lhonneur (1856), Virchow (1859), Haldane (1862), Wilks (1863), and Lanceraux (1866). Haldane's case, however, is doubtful; there were no other organs affected with syphilis, and the subject of the post-mortem, a woman of the town, of whose previous history very little was known, was a drunkard.

Wilks, Virchow, Wagner, and Lanceraux admit an affection of the pericardium. It occurs in the diffuse form, or as gummata, frequently associated with myocarditis. The latter was found as diffuse interstitial affection, or in the form of gummous deposits. Interstitial myocarditis more frequently attacks the walls and muscles of the left of the heart than of the right. The endocardium usually shows a bluish-white colour, is often thickened, but in an unequal manner; the original tissue of the muscles disappears and gets replaced by a dense fibrous whitish substance, interspersed with yellow spots. Effusion of serum into the pericardium seems rarer than in other heart diseases.

Eight cases of gummata of the heart are recorded in medical literature. The little tumours are liable to soften, and may produce ulceration of the heart and embolism (Oppolzer).

The symptoms are those of pain, irregular action of the heart, and impeded circulation, palpitations, dyspnœa, irregular beating, increased dulness, blue lips; and

sometimes a slight systolic murmur was noticed: the ankles do not often swell. The diagnosis from rheumatic affection is not always easy. In syphilitic disease other organs are also affected; the murmur is constant in rheumatism, and œdema more extensive. As for the prognosis, it is more favourable in syphilis than in rheumatism. Specific remedies may cure the affection in the commencement, but of course, where the disease is inveterate, it leads to a fatal end.

AFFECTIONS OF BLOOD-VESSELS.

The large vessels have been found diseased and degenerated in different ways. The arteries may become compressed and completely obliterated by gummata. Such cases are mentioned by Dittrich, Gildemeester and Hoyak, Virchow and Meyer, the vessel being the carotis interna. Bands of plastic tissue compressing the artery were found by Bristowe. The walls of arteries were found degenerated by Lanceraux (*l. c.*, p. 401), Leared ("Transact. Path. Soc.," 1867), Beer (*l. c.*, p. 92). Either one or all the membranes are diseased. Beer found small yellow deposits in the inner membrane of the aorta, beginning near its insertion, up to the arcus. Virchow had a similar case. Johnston ("Dublin Quarterly Journal") relates a case of rupture of the aorta in consequence of deposits between the coats of the artery, the subject being syphilitic. Two cases of aneurisma (of the subclavia) are referred by Lancisi to the influence of syphilis. There was suppuration in the neighbourhood, leading to the corrosion of the vessel; but as both cases were cured, they are not - nd doubt. Wilks also had an aneurisma which

he believed of syphilitic origin. Weber found a gummatum the size of a bean in the arteria pulmonalis, leading to apoplexia pulmonalis. Affections of the veins are very rare. Moxon describes the subclavian vein narrowed by compression from a syphilitic tumour (*l. c.*, Case 11).

DISEASES OF THE ORGANS OF DIGESTION AND ASSIMILATION.

SYPHILIS OF THE LIVER.

There is no organ of the body which is so frequently attacked by syphilis as the liver. The physicians of past centuries suspected that such was the case, but it is only recently that it has clearly been proved by facts. The syphilitic nature of certain circumscribed tumours was first proclaimed by Dittrich of Prague in 1849, who published his views in the "Prager Vierteljahrschrift." A few years previously, Ricord had given a coloured drawing of similar tumours in his "Clinique Iconographique" (Pl. XXX., tubercule du foie). Gubler, in France, was the first who gave detailed descriptions of a diffuse form of liver disease in new-born children ("Gazette Médicale," 1852); but Rayer had already stated his opinion of amyloid affections occurring, in his treatise on the kidneys ("Maladies des Reins," 1840).

In this country, Graves and Budd ("Diseases of the Liver," 1857, p. 332) referred amyloid disease of the liver to syphilis; somewhat later, Virchow explained the nature of the amyloid affection by first using the iodine test. Frerichs contributed to the pathology of syphilitic liver disease in 1858 ("Klinik der Leberkrankheiten");

especially remarkable were his cases of lobulated disease. Leudet ("Moniteur des Sciences," 1860) published his views on active inflammation caused by syphilis; and afterwards to the present date cases described by different authors have increased in number. Still, there are many unbelievers.

ANATOMY.

Syphilitic Perihepatitis.—The serous membrane of the liver may be singly affected, though this is certainly rare; at least in adults. Usually the liver itself is also diseased. Virchow says that syphilitic hepatitis rarely assumes the miliary form, the membrane then being studded with small warts, which extend to the surface of the liver, and sometimes grow larger afterwards.

Dense fibrous bands were found as the result of perihepatitis by Frerichs, Virchow, Lanceraux, and others, and they occupied either the convex or concave surface: sometimes there were cicatrices extending into the substance, and adhering to neighbouring organs (diaphragma, intestines).

The forms of liver disease may be brought under four different heads. We have (1) simple interstitial hepatitis, with exudation of a hyperplastic material into the cells and interlobular spaces. This form is not rare in hereditary syphilis (Gubler, *l. c.*, p. 25): the size and bulk of the organ become somewhat increased. Beer says that the hyperplasia is often confined to the portal branches, the other tissue being free from degeneration; the liver is increased in size, but smooth; at other times the organ is granulated, without becoming nodulated. Under the microscope we generally find the process

called by Virchow proliferation, with an abundance of small cell-like elements in the connective tissue, and the regressive process is little advanced.

2. The second form is a later stage, consecutive to the first, but much more rare; it represents the nodulated, knotty liver (Biermer, Habershon, "Diseases of the Abdomen," p. 110; Frerichs, *l. c.*, p. 163). The organ is greatly reduced in size and considerably deformed; deep fissures have been caused by the contraction of the exudated material, and smaller and larger nodules are found in place of a smooth or slightly granulated surface.

3. We have the gummous form. The gummata form tumours varying in size from a pea to a large walnut. Coloured plates may be found of them in Ricord's "Clinique Iconographique," Pl. XXX., figs. 2, 3; Frerichs' "Atlas," Tafel IV., figs. 4, 6; Virchow, *l. c.*, Tafel V., fig. 6. Budd's work also contains a coloured drawing, but in the text he wrongly referred these nodules to inflammation of the gall-ducts. His specimen is deposited in King's College Hospital Museum (Spec. 327). A considerable number of good specimens may also be found in Guy's Hospital Museum. The gummata are either superficial or deep-seated. In the former case they are felt as prominent nodules. They are of a round or roundish form; of a whitish, yellowish, or greyish colour; they are soft or hard, sometimes containing a milky or cheesy fluid; at others hard, brittle, and even calcified masses. They are almost always enclosed by a fibrous capsule or zone, from which fibrous rays often radiate into the surrounding tissue. At an early period of their formation this zone is rich in blood-vessels; and, according to some authors, presents the character of

active inflammation (Leudet, Moxon). The central portion of the gummata is without blood-vessels, and therefore its nutrition is cut off, and a regressive process necessarily follows. There is reason to suppose that part of the nucleus is sometimes absorbed, as the occurrence of very small nodules in dense cicatrices could thereby be explained. The central part of a gummatum undergoes fatty degeneration, which is found the more advanced the nearer the centre. The following case of Beer (*l. c.*, p. 86) gives a good delineation of the anatomical and microscopical features of these tumours in an advanced state of their existence. They were small in this instance, but not different from those of a larger size.

The liver of a young woman, where the kidneys presented the diffuse syphilitic degeneration (at the post-mortem) was degenerated in a mixed manner. Its volume was pretty normal; there was partial lardaceous disease, but confined to small branches of the hepatic artery. Partly in the substance, partly on the surface, about twelve or fifteen widely-separated patches were found, the size of a lentil or pea, with a dark yellow centre and a grey bluish sheath or capsule. They were roundish, the nucleus hard, not easily broken or loosened from its case. The grey mass was rich in small roundish elements. Generally free nuclei were found also nuclei, surrounded by an enveloping mass or cell of somewhat different size. On the periphery the grey mass was bounded by thickened small branches of the portal vein. The adventitious hyperplasia was of a simple character, the small roundish elements, nuclei or cells, being missed.

The yellow nucleus consisted of fatty degenerated tissue of the liver, some of the liver-cells being well conserved,

others broken up into fragments. There were also free fatty molecules and fatty detritus.

Nodules are frequently found in the livers of newborn children with inherited disease, as Wedl and Zeissl, Baerensprung, Virchow, Diday, Gubler, Schott, Testelin, and others testify.

4. The fourth form is amyloid degeneration of the liver. Now this is also caused by scrofula, and frequently associated with bone disease; in fact, the highest degree of amyloid degeneration was found coupled with caries of the bones, as Budd stated in 1857, and Virchow afterwards confirmed. Some authors ascribe this affection to the combined influence of syphilis and mercury; an eminent authority, however (Frerichs), refers it solely to syphilis, as he always found the liver of syphilitic subjects more or less fatty, and in two cases he could prove lardaceous disease by the iodine test. Beer, in speaking (p. 23) of the relation between lardaceous degeneration of the blood-vessels of the liver and syphilitic interstitial hyperplasia, says that the latter is not to be considered as a consequence of the former, but both may co-exist; the former may, however, lead to hyperplasia of the connective tissue secondarily; viz., after atrophy of the parenchyma has preceded.

It is certain that amyloid degeneration is in many cases associated with syphilis; and it is likely, though as yet not proved satisfactorily, that syphilis is the more or less direct cause of it, in the liver as well as in other organs. Hutchinson says that waxy disease is not rare in children, and G. Stewart believes that he found it inside a gummous tumour ("Med. Chir. Engl. For. Review," 1864).

The bulk and weight of the liver is always increased in such cases, as also that of the spleen (Frerichs).

It is rare that one of the described forms of liver affections is found singly; frequently one or more are associated together (as for instance in Beer's case). It is, however, likely that the first-described form, being curable, often exists without coming under the observation of anatomists. It is far more common than any other (Frerichs, Gubler); next comes the gummous form, often coupled with perihepatitis; and lastly, the amyloid degeneration extended over the whole or greater part of the organ, though it exists more often to a limited extent.

Syphilitic affections of the liver belong, according to some authors, to the secondary; according to others, to the tertiary stage of the disease. Gubler, for instance, found the diffuse form simultaneously with secondary symptoms of the skin and mucous membranes of children. But it is also stated that in some cases there is no secondary stage at all observable; and without its preceding, tertiary disease sets in, either at an early or remote period after infection. The exquisite lobulated form belongs certainly to a late stage of syphilitic disease, as it is observed ten or even twenty years after the primary symptoms.

Diagnosis.—Tuberculosis of the liver is extremely rare (Cruveillier), and where tubercles are found in this organ, they are also sure to be in the lungs. Fibrous tumours are also very rare, and their structure is more solid and homogeneous, not showing two different zones. Cancer of the liver was formerly confounded with gummous tumour (Oppolzer, Bochdalek), but it is not accompanied by those deep cicatrices, and it contains the peculiar cancer-juice and cancer-cells when examined microscopically. Adhesions to neighbouring organs are also most frequent with cancer. The symp-

toms of syphilitic liver disease are strongly influenced by a treatment with iodide of potassium, which is not the case with the other affections. Of this I had a very striking example in a female who suffered from syphilitic caries of the nasal bones, and was highly cachectic.

Mary West, 27, was primarily affected five years before she applied to the Dispensary, on Sept. 6, 1866. She has had lately several times what she calls bilious attacks, with loss of appetite and diarrhœa. Her pulse is slow (68) and small, her tongue whitish. She felt a pain and weight in her right side, especially at night; the liver is smooth, its size irregularly increased, as shown by percussion. It is quite movable, being carried lower down with every deep inspiration; its lower margin is found two and a half inches below the false ribs in the median line of the body, and three inches outwards; but at both sides it is suddenly lost, so that the margin forms a very curved line.

She took potassii iodidi, gr. x., three times a day, in mistura menthæ, ℥i., and the dose was increased to gr. xv. after a fortnight, with remarkable benefit. Her pain and uneasiness was gone five weeks later, and after two months, the size of the liver had decreased to about an inch at the lower margin.

Hydatids, especially when calcified, may give rise to serious doubts on the diagnosis, as may be concluded from this case. August Goff, 49, bootcloser, applied to the Dispensary on Sept. 3, 1866. He has been ailing for four years, and has had diarrhœa for three weeks. He frequently had bilious attacks, and two years ago he passed some blood. Pulse 80, tongue whitish. He seeks relief for a new complaint, viz., stitch in the right

side. The physical examination shows normal percussion sound, under the claviculæ, and also at the back. The dulness begins in the right side from the sixth rib, in the left one from the ninth. The liver dulness reaches to one inch and a half below the false ribs. There is a striking friction-sound at the back, in the lower part of the right lung: it was heard on three subsequent occasions.

The abdomen shows blue veins near the false ribs, which are a little bulged where the liver lies underneath. In the middle line of the body, but so that two-thirds are to the right of the line, is a smooth and somewhat elastic tumour of the liver, carried downwards with every inspiration. It measures two inches from right to left, and one inch and a half in a vertical direction. There is a smaller tumour to the left of the linea alba. The circumference of the abdomen is two feet nine inches at the widest part, this being three inches below the processus xiphoideus. The spleen is not enlarged; there is no ascites. Liver a little tender. The patient was ordered sodæ bicarb., gr. x., in mist. menth. ℥i., three time sa day, to prepare him for other remedies, especially potass. iodid.

Sept. 10. Patient was examined and questioned as to preceding venereal disease, but denied it. There was also no cicatrix or other suspicious circumstance. The patient deprecated any change of the medicine, which he therefore continued for six weeks, when he had considerably improved, and was without friction-sound.

August, 1867. Nearly a year later the patient applied again to receive the same medicine for biliousness. There was nothing changed as regards the liver, but it was no longer tender, and the veins were less

conspicuous. The tumour (the larger one) seemed somewhat more solid.

Remarks.—In this case a tumour was found in a patient who applied for another complaint. It could not be a malignant one, as it was not adherent; it could not be a gummatum, to which it very much corresponded, as no syphilis preceded; but the slight elasticity spoke for a hydatid tumour. Most likely it underwent calcification, and by this the patient improved very much.

Waxy liver disease was excluded by the normal size of the spleen.

It is advisable to ascertain whether the teeth have the peculiar notched appearance indicating hereditary taint, where primary disease is denied; whether there are other symptoms of syphilis,—enlarged cervical glands, thickened nails, or bulky finger-ends.

SYMPTOMS OF SYPHILITIC LIVER DISEASE.

They vary according to the stage of the disease and the form under which it occurs. Diffuse syphilitic interstitial hyperplasia causes very insignificant symptoms (Frerichs). Often pain is present in the hepatic region, generally of an indistinct character; but in one of Frerichs' cases it was violent and almost unbearable. Where the size is increased, we find abnormal dulness of percussion. Deep indentures, fissures, or knotty tumours may be ascertained by the sense of touch. Gummata may certainly exist without any great distress. Slight indigestion is not unusual, and increases with the disease; diarrhœa is not unfrequent (Leudet); blood is

rarely passed with the stools (Lanceraux); jaundice is very rare, but has been observed (Frerichs, Lanceraux). Ascites seems rarer than in other liver diseases, but it is mentioned by different authors. It is not associated with the amyloid form, where we must rely on the increased size of the spleen. Œdema of the legs, and general hydrops belong to a later period than ascites. The patients get extremely weak, lose flesh, and have an intense cachectic appearance, and sink at last thoroughly exhausted.

Prognosis.—The prognosis depends much on the stage of the disease, the age and constitution of the patient.

Treatment.—Iodide of potassium is a very effective remedy, but the lighter cases do not require mineral acids, and tonics may be found sufficient.

DISEASE OF THE SPLEEN.

Though syphilitic affections of this organ are presumably not rare, reliable cases are scarce in medical literature, and for detailed accounts of the microscopical exhibition we must almost solely look to Beer.

A case is mentioned by Wilks where the spleen of a syphilitic subject contained a fibrous mass, and the diffuse form of the affection is described by Virchow. It begins with moderate hyperæmia and tumefaction; sometimes the whole spleen is morbidly affected, sometimes single patches. They show originally a red colour; but this begins, at first in the centre, to give place to a pale one; new connective (corpuscular) tissue is formed, and in the course of time the substance gets harder, contraction sets in in some places and cicatrices are formed.

Beer says that the processes are variable, leading to fibrous cicatrization, or fatty and cheesy deposits. Often small roundish nodules appear prominent (kugelförmig vorspringende Knoten) on a section being made; they seem to owe their origin to fatty and cheesy degenerated cellulous hyperplasia in the adventitia of larger vessels.

Beer does not think the diffuse syphilitic hyperplasia discernible from non-syphilitic affections, but the pale patches (blasse Milzheerde) belong only to syphilitic disease: they are never found elsewhere. They are the results of a regressive process, which takes place here and there in the hyperplastic tissue. They have not been found, up to the present time, in soft spleens; the organ was always hard and hypertrophied. When examined under the microscope, the patches are poorer in cells than the other tissue; they are exquisitely anæmic, poor in arterial and venous blood. The blood-vessels are contracted in some parts, and can scarcely be injected: in others, they have disappeared. There is a regressive process, without a progressive one having apparently preceded. It does not come to the last stage of necrosis; especially there are no sharp demarcations between a necrotic part and the tissue. The colour, although pale and reddish, is not at all cheesy or opaque, and the peripheric part is not without blood-vessels.

The sulphur-yellow deposits or nodules, as observed by Moxon (*l. c.*, Cases 8 and 13), are something different; they are somewhat fatty; if one were produced from the other, the nodules would be the later stage. They show a strong demarcation from the surrounding tissue. Beer could not bring these yellow nodules where he found them in the organ into clear connection with syphilis.

The amyloid degeneration of the spleen is more frequent in scrofula and tuberculosis.

Diagnosis.—The diagnosis of the yellow nodules from tubercules is not so easy without referring to the history of the case, but the pale patches cannot be confounded with anything else.

Symptoms.—The symptoms during life are not so striking. The percussion sound is sometimes abnormally dull, owing to the enlargement of the organ; the spleen was found five inches long in some cases where the post-mortem was made. The enlargement may be recognizable by palpation. Pain may be present in the region of the spleen, and especially at night. It is always of a periodical character, and does not increase by instituting pressure on the organ. The cachexia is always much developed.

I specially examined the spleen in cases of inveterate syphilis, with the object of elucidating whether its size was constantly increased or not. The results of percussion are fallacious, unless made with care. A pleximeter should be used, and a Conti crayon for drawing the figure of the dull sound. A hammer is useful where many cases are examined at the same time. The normal size of the spleen varies a little with the height of the body. The diameter in the axillary line is stated by Vogel (of Giessen) to be eight centimètres at the highest; the transverse diameter is smaller than that. Often the dulness is scarcely a square inch. I consider the size of a spleen abnormally large as soon as the figure of dulness covers more than two square inches, or five square centimètres (between ninth and eleventh rib).

I found the spleen enlarged in three cases of syphilis of five years' standing; I found it not enlarged in more

than half the number of cases of one or two years' standing; and in very old cases of syphilis (ten or fifteen years), the organ seemed again reduced in size.

Treatment.—As the disease is found associated with affections of other organs, it has to be subjected to the action of the specific remedies used for curing them; but it seems that preparations of steel interposed for a time have a decidedly beneficial effect. Whenever the pain is very annoying, local remedies, such as mustard plasters, or belladonna liniment, may be tried.

DISEASES OF THE SALIVARY GLANDS.

They are frequently enlarged and hypertrophied in syphilitic patients, with and without their having been subjected to mercurial treatment. One case is mentioned where a gummatum was found in the glandula submaxillaris (Lanceraux).

DISEASE OF THE PANCREAS.

The diffuse form of disease is perhaps not so rare as is generally assumed, as the organ, though not much attention is paid to its anatomical lesions, is mentioned to have been found hardened and hypertrophied in syphilitic subjects. Hecker (Virchow's "Archiv," 1860, p. 192) described it as of a cartilaginous hardness in a newborn child, who had syphilis of other organs. Rostan ("Bulletin de la Société Anat.," 1855, p. 26) found two gummata in the pancreas of a man who had syphilitic

tumours of the muscles. Virchow found fatty degeneration of the pancreas of newborn children associated with ectasia and gelatinous masses in the ductus Wirsungianus ("Archiv," Bd. xv. p. 315); Moxon found an abscess of the pancreas (*l. c.*, Case 23).

THE VISCERAL LYMPHATIC GLANDS.

They may become enlarged and degenerated in subjects with visceral syphilis. Cases are recorded by Lanceraux, Loury, Moutard, Mosler, and Beer. Hypertrophia and hardness have been found, as also softening, and sometimes gummata. Virchow admits three different stages through which the affections pass,—one of hyperæmia, another of medullary hyperplasia, and a third one of cheesy transformation. During life the alterations cannot be detected, as the glands never swell to such an extent as in scrofula.

AFFECTON OF THE PERITONEUM.

Simpson gave it as his opinion that the fœtus frequently died of syphilitic peritonitis. Gubler thought that the liver was always primarily affected, and the inflammation spread from it to the peritoneum. Murchison described a case where this happened ("Lancet," Nov. 30, 1861). It seems very likely that the liver has been affected originally, but though a spreading of the inflammation from other organs of the abdomen has not yet been observed, there is no reason to suppose that what happens with the liver may not also happen with other viscera.

AFFECTIONS OF THE INTESTINAL TRACT.

The tardy affections of the *tongue* are known as gummata of this organ. Likewise the *pharynx* and œsophagus may become the seat of these formations. But deep-seated and destructive ulcers are more frequent. The ulcerations of the œsophagus cause fibrous cicatrices and constrictions, which in one case (West, "Dubl. Quarterly Journ.," 1860) led to a slow death from want of nourishment. Gummata of the œsophagus may be confounded with fibrous or malignant tumours; but the latter are adherent, and therefore not movable; and where the gummata are too deep-seated to be easily explorable, a specific treatment sometimes elucidates the nature of the growths.

Stomach.—There is little doubt that syphilis may attack the membranes of the stomach; this may be concluded from a number of cases where alterations were found, admitting scarcely any other explanation. A waxy stomach in a syphilitic individual is described by Moxon (Case 16). Vomiting was a constant symptom. Ulcers and erosions were occasionally found and considered of syphilitic origin by Engel, Brinton, Fauvel, and others. Lanceraux thinks that the alterations are generally not characteristic, and referable to syphilis only on account of other co-existing syphilitic affections. But our knowledge is likely to improve if the organ should be more carefully examined at post-mortems, and especially the nature of the cicatrices looked after.

The Intestines.—There is little known about alterations of the small ones. Beer, however, found cicatrices in the lower section of the jejunum which had great simi-

larity with those of the larynx and private parts. There were ten cicatrices about a quarter of an inch long, formed into rays different from those of typhoid fever by padded, cellulous infiltrated borders adjoining the cicatrized slits.

The large Intestines.—Huet, Cullerier, Wagner, Förster, Leudet, Meschede, Virchow (" Geschwülste," ii. p. 415), and Eberth have cases of syphilis of the colon and rectum. Of course, where erosions and ulcerations existed, some doubt was left on the nature of the case, but small gummata were also found simultaneously by Meschede, Virchow, and Eberth. The ulcers may originate in different ways, and either arise from inflammation or condylomata or softening of small gummous tumours. An observation of Virchow bears witness to the latter origin. The Peyerian glands were found diseased by Förster. Lardaceous disease of the intestines, especially the large ones, is also admitted (Moxon, Wilks).

The *symptoms* of diseased stomach and intestines are those of disturbed function,—indigestion and diarrhœa. Cachexia is also present.

The Rectum.—Syphilitic disease of it has been more frequently observed than of the intestines; it leads to stricture, which sometimes becomes dangerous to the life of the patients. For cases we may refer to the works of Lagneau, Rayer, Vidal, Gosselin, Bärensprung, Moxon, and others. It is generally possible to obtain a clear view of the lesion by the use of the speculum ani. The symptoms are very distressing; such as diarrhœa, tenesmus, pain, fainting, and obstruction. Internal remedies are of little avail, and surgical help and local applications are needed.

DISEASES OF THE UROPOËTIC SYSTEM.

AFFECTION OF THE KIDNEYS.

Considerable advance has been recently made respecting the diagnosis and pathology of certain diseases of the kidneys with and without albuminuria; the influence of syphilis on these organs especially is better known. To Rayer ("Maladies des Reins," pp. 489, 493, published 1840) the merit is due of having first recognized the true nature of certain degenerations of the kidneys, which he considered too striking to associate them with simple inflammation. He referred those cases which at present are better understood under the term of lardaceous or amyloid degeneration, to syphilitic cachexia, whereas others previously, especially in this country, ascribed them to the use of mercury. Jacksch and Finger, as also Frerichs, wrote on the same subject; but Frerichs only admitted the general connection between syphilis and albuminuria. In 1858, Thouvenel described some cases of affection of the kidneys in syphilitic persons; Virchow first brought the iodine test to bear on the question, and quite recently Beer gave valuable information on the syphilitic disease of the kidneys, as will be seen from the translated passages of his work. The latest report of Guy's Hospital contains also cases (by Moxon) where amyloid degeneration existed.

There are two different forms which syphilis generally assumes in the kidneys,—the diffuse and circumscript. But the diffuse one occurs also in a gregarious manner,

forming patches, though the whole cortical substance may be infiltrated. Beer, speaking of the diffuse affection (*l. c.*, p. 27), says that the albuminous infiltration of the cells of the parenchyma, their fatty degeneration, the hyperplasia of the stroma and its partial transformation into fat, as also the cellulous interstitial hyperplasia, are all found associated together, and partly in macroscopic limits, one or the other process prevailing. Quite characteristic and constantly present are small fatty patches, which pervade the cortical substance, with interstitial hyperplasia and lardaceous degeneration of blood-vessels.

The interstitial fatty degeneration may be either entirely absent or exist only in traces, the cellulous hyperplasia of the intermediate tissue may show either small, roundish nuclei and cell-forms, or exclusively caudated (spindelförmige) elements; or, lastly, the cellulous hyperplasia of the stroma may appear, only in an inferior manner, whereas the simple homologue development of connective tissue takes precedence.

The naked eye notices the following changes:—The kidneys are enlarged, so that they measure five inches in length. The surface is smooth, or there are flat prominences alternating with slight depressions in a regular manner; the capsule may be easily detached. The colour of the organs is bluish-grey, relieved by numerous intensively yellow spots, grouped together, with a diffuse venous redness between them. The veins may be injected in the form of stars. The organs are firm, but feel slightly pasty.

A section through the cortical substance appears considerably broad,—about a third of an inch, 3 to 4 lines, the pyramid being of the usual size. The groups of

little yellow spots are dispersed through the whole; the principal colour is of a pale reddish-grey; the Malpighian bodies are prominent as large, pale, glossy granules.

The medullary substance appears strongly coloured compared with the cortical one, but generally only light red, and more or less striped grey. The glomeruli and arteries of the cortical substance get coloured red through admixing solution of iodine.

Under the microscope the glomeruli are found in a state of lardaceous degeneration, as also the vasa afferentia and efferentia, the Malpighian bodies being increased in size, but not degenerated.

The interstitia appear broader, broadest in the neighbourhood of the fatty patches, narrowest at the deepened places of the surface of the granulated organs, and at other atrophic places distributed over the parenchyma, the meshy arrangement of which, besides, by complete loss of the canaliculi, wholly disappears. This does not happen in a notable, but generally in an insignificant manner. The interstitial tissue of the smooth organs receives, always at single diffusely dispersed spots, and principally where the interstitia are broadest, aggregations of small roundish nuclei and cells; the tissue of the smaller interstitia shows more a simple tendinous hyperplasia. Frequently the transition of both interstitial changes is mediated by an aggregation of caudated elements, which are placed so densely that nothing more is to be seen of intercellular substance. The small roundish elements are sometimes absent in the granulated organs for great distances, so that one has to search a long time before one finds them; whereas the aggregations of caudated cells are still visible. But they may be also absent, and the tissue may appear

simply hyperplastic. Moreover, fat is found in the interstitial tissue pretty constantly, sometimes only in traces, sometimes in great quantities. It is most abundant where the little fatty patches show themselves. It is partly to be found in the new-formed roundish cells, partly in the caudated elements, but most frequently in the magnified ramified corpuscles of connective tissue, and here mostly in the shape of large drops, and also freely distributed through the interstitial tissue. The effect of the small fatty spots is produced by the fatty degeneratiou of the epithelium of the convoluted canaliculi at the places in question. Each single cell is metamorphosed into a ball of little nuclei, the canaliculi being a little distended.

The medullary substance is rarely of characteristic appearance. We find generally strong papillary shedding, and fibrinous casts, sometimes lardaceous degeneration.

Beer deduced this general description from nine cases under his notice between 1859 and 1867, in all of which syphilitic affections of other organs were present.

In one of the nine cases dark red spots were distributed over the surface in the manner of an exanthem. They had the size of a lentil, and formed slight depressions, so much so that they could scarcely be felt. It was found on injecting them that they represented distinct microscopical telangiectasiæ.

Beer also found gummata in some cases (*l. c.*, p. 63—72), as also Rayer ("Malad. des Reins," ii.) who called them fibrous tumours, and Virchow ("Geschwülste," i., p. 333), Lebert, Cornil (Essay, 1864), Moxon (*l. c.*, 1868). The gummata are often roundish, generally small, and whitish, the centre being often very fatty; and sometimes

fatty degeneration in the round cells can be distinctly seen; at others, fatty detritus prevails.

Little gummata were sometimes found in the cicatrices, but the cicatrices also without the gummata (Virchow, "Archiv," xiv. p. 314).

Diagnosis.—Though the pathological state after death is not always itself sufficient to decide the syphilitic nature, still there are many cases where not much doubt is left. Whenever the nodules are enclosed in cicatrices, tuberculosis cannot be thought of. When the gummata are dispersed through the substance, they are generally less distinctly distinguished from it than miliary tubercles. Cicatrices may owe their origin also to infarctus; and therefore it has to be investigated whether symptoms of the latter existed during life. The diffuse form is difficult to diagnose, *unless* other organs are affected with syphilis, but the patches described above are characteristic.

The diagnosis during life is unsafe unless albuminuria exists, and this may be referred to syphilis where other organs also suffer. Therefore the examination of the urine should not be neglected.

Symptoms.—Many cases of diffuse syphilitic affection of the kidneys produce slight symptoms in the commencement. Pain exists frequently in the region of the kidneys, and I had two probable cases where it was the only symptom, combined, however, with cachexia and tertiary bone affection. But both cases soon got better under a specific treatment: the urine did not become albuminous. This is otherwise in neglected or inveterate cases, where the urine becomes of low gravity, and contains casts (Stewart). Œdema and anasaria also make their appearance; diarrhœa may set in; and cases are certainly

not rare where the kidney disease becomes the principal cause of death. In such cases uræmia is stated to occur (Lanceraux, Moxon). There are other cases where only a portion of the organ is affected.

The course of the disease is chronic, and most likely, as I infer from the above instances, lighter cases are easily cured. But our experience is still very limited.

The principal remedies are iodide of potassium, steel, and opium.

The suprarenal capsules were found degenerated in syphilitic subjects by Virchow.

DISEASE OF THE URETHERS, BLADDER, AND PROSTATA.

It is possible that cases of hydronephrosis arise sometimes from syphilitic affection (ulceration and cicatrization, with constriction) of the urethers. As for the bladder, Virchow describes a case where he could follow the results of syphilitic ulceration into this organ, there were deep cicatrices of the mucous membrane similar to those of the larynx ("Würzburger Verhandlungen," iii. p. 336). Follin describes little tumours in the bladder which were most likely of syphilitic origin. Syphilitic affection of the prostata is admitted by Lanceraux on general grounds, no reliable case being adduced. But it may be supposed with some reason that of the numerous affections of this organ some arise from syphilis.

DISEASES OF THE ORGANS OF GENERATION.

The Female Organs, Ovaries, Fallopian tubes.—In 1857 Richet first drew attention to syphilis causing ovarian

affections; Lanceraux considers them of frequent occurrence, and Moxon is of the same opinion: in his fifth case, the left Fallopian tube contained a firm pasty collection of the size of a hazel-nut, the substance of the tube being thickened.

As regards the ovaries, it is likely that the diffuse form and the gummous form exist. The former may be concluded to have been present from peculiar cicatrices resembling those left as products of inflammation of the testicles. A case of the gummous affection is described with a plate (*l. c.*, Pl. II.) by Lanceraux.

The symptoms of ovarian syphilis are a deep-seated pain at the ovarian region, with palpable swelling of the organ and general uneasiness, accompanied, very likely, by hysterical fits. The affection may assume the character of active inflammation, and end in dissolution or wasting, and fatty degeneration. Sterility may be caused in various ways in consequence. Iodide of potassium usually acts in a very favourable manner.

The Uterus and Vagina.—Hypertrophy, erythem, chronic metritis, and excrescences are all ascribed to the influence of syphilis on the womb. Diffuse and gummous inflammation are assumed to exist; sometimes confined to the lower portion, causing considerable enlargement. No case of gummatum is, however, found in medical literature; but it may be supposed that the beneficial influence of iodide of potassium on some uterine swellings speaks for the syphilitic nature of these affections. During pregnancy the child-bearer is more under the influence of the syphilitic poison than otherwise. The placenta has also been found degenerated by fat and atrophied: this degeneration must be considered as one of the causes of abortion.

The vagina may possibly become the seat of secondary ulceration, but no facts can at present be adduced in favour of this opinion.

The Male Organs.—The testicle and its appendages. Ricord already described two different syphilitic affections of the testicle, and gave a drawing of gummata testis ("Clinique Iconographique," Pl. 39, *bis*). The gummous affection belongs to a late stage of constitutional syphilis.

Virchow ("Archiv," xv. p. 263) admits a simple inflammatory orchitis, or peri-orchitis, and a gummous one. The former may occur under the form of hydrocele, or pass into it; but generally it soon leads to thickening of the albuginea testis and tunica vaginalis propria to adhesions or complete synechiæ. The former may lead in analogy to the processes happening with the capsule of the spleen or ovary to partial semi-cartilaginous thickenings; yea, even to calcifications; but, under all circumstances, they only produce pure connective tissue, by which also the mass of the adhesions and synechiæ is composed. It is exactly the same case with the orchitis, which generally precedes induration. It begins as interstitial inflammation, mostly at the free periphery of the testicle, just underneath the thickened albuginea, and hence proceeds in rays, following the course of the canaliculi seminalis, in the direction of the rete of the testicle, without, however, reaching it or even passing beyond it, at least in the common cases. Generally it is not the whole external substance of the testicle which is attacked, but single pyramidal portions of more or less extent; in most cases the middle ones in preference. Here a hyperplasia of the interstitial tissue begins between the at first well-conserved canaliculi

seminales with moderate hyperæmia; the tissue presents a soft, reddish-grey mass, and under the microscope appears as connective tissue, very rich in nuclei. Later the mass becomes dense, and of a bluish or whitish tendinous appearance; the intervening spaces between the canaliculi seminales get broader, the walls of the latter thicken considerably, and conglutinate with the interstitial tissue; the epithelium develops in itself a brownish pigment, and is destroyed by fatty degeneration. At last the canaliculi seminales are completely atrophic, and nothing is left but a homogeneous, tendinous, wedge-shaped portion. The testicle is diminished in the direction of this portion, so that in extensive induration its whole size becomes smaller; but, where the induration is more confined to lobules, an indentation of the tissue similar to a cicatrix is formed, the albuginea being thickened above it, and adhering to the lamina parietalis. The epidydimis is generally almost wholly sound.

More characteristic products are produced by gummous orchitis (variocele). The described changes are also found; but in addition there is the gummous growth. A denser nodule, or several, are generally seated inside a tendinous portion, either of the albuginea or the substance itself, sometimes confluent (Virchow, xv. 263), each the size of a hemp-seed to that of a cherry; roundish, tuberous, or quite angular; of dry, hard, whitish-yellow, and generally homogeneous consistency. It is a growth very like tubercle, but differing from it by the small grey miliary nodules never being present in its neighbourhood, which precede and accompany tubercle of the testicle. Instead of this one meets a reddish areola frequently intersected by blood-vessels, which are visible to the naked eye, and compo[illegible] and

more loose tissue, which passes at the peripheric part without demarcation into the indurated tissue. In older cases the induration directly adjoins the substance of the nodule, and represents, as it were, a capsule of it, which, however, can be removed only artifically.

The microscopical examination generally demonstrates in fresher cases, and excepting the callous tissue, three different zones. The most outwardly situated is the connective tissue, rich in blood-vessels, and therefore reddish, which is filled with young, cellulous elements, evidently in full granulation. A small zone of fatty degeneration, rarely perceptible to the naked eye, adjoins it, in which one sees young cells grow larger and transform themselves into globules of nuclei, which, densely packed, border the limits of the yellow nodule. This is proved to be just as the yellow masses of the nodules of the periost, a densely felted tissue, in which, in addition to faint fibrinous rays, only a dense aggregation of fatty degenerated cells is seen; frequently also only nuclei of fat are seen here and there, still holding together in roundish patches; at most places, however, they are already dispersed. In more advanced stages the granulating zone is missed, and in its place is found a mass of sclerotic connective tissue, looking almost like fibrous cartilage or cornea, with very distinct fibrous cells, which are separated by broad intermediate layers of faintly-striped ground substance.

In the direction of the limits of the nodule a fatty degeneration of the cells shows itself, increasing with their greater size and width; exactly the same as in the atheromatous transformation of arterio sclerosis. Next to the yellow mass large densely-packed nucleated cells and globules of nuclei are found; and once Virchow found

crystals of cholestearine. In the interior, small, densely-packed cells are situated; often forming broad, anastomosing rays, undergoing more or less fatty degeneration.

The symptoms of syphilitic affection of the testis are so slight in the commencement, that they are often overlooked by the patient. A slight weight and bearing down may be felt, and some general uneasiness; the testicle, when examined, is found enlarged; at a later stage its surface is felt uneven; gummous tumours, where they exist, may be discerned by the touch; and at last, wasting of the organ is recognized as the product of long-standing disease. The sexual functions do not suffer in the beginning; but, of course, they are diminished in the course of time, when the tissue is degenerated to a greater extent, and may be lost completely when both testicles are diseased, which is rare.

Diagnosis.—Ulceration of the syphilitic testis is very rare; but it might be confounded with the so-called fungus testis. This is a condition of the scrotum where we find a prominent growth penetrating the skin, but the testis is of normal size.

Tubercle of the testicle often leads to ulceration by softening. In this case the epidydimis is generally affected, which we do not find in syphilis, and the patient is generally a member of a tuberculous family.

The prognosis is favourable where the patients have medical advice in time. Iodide of potassium is very effective; but, of course, where the degeneration has reached an advanced stage, this remedy may fail.

Affections of the vasa deferentia are very rare, but gummous tumours have been found in them.

The seminal vesicles may possibly also become diseased, but nothing certain is known about this.

AFFECTIONS OF THE MAMMARY GLAND.

Ambrosoli observed hypertrophy of this organ in a man with secondary syphilis, and also in two females. He compared the affection with syphilitic orchitis. The cases were cured by iodide of potassium.

APPENDIX.

AFFECTIONS OF THE MUSCLES, INCLUDING THE DIAPHRAGMA.

The muscles of the internal organs may be affected by syphilis in the same manner as those of the body and the trunk. In fact, no muscle possesses immunity from becoming the seat of lesion. Recently the muscles of the larynx have been recorded as diseased (Türck); also those of the heart (Ricord, Bouisson) and of the diaphragm (Moxon).

The following are the anatomical changes, according to the view of the most eminent pathologists:—A diffuse exudation takes place in the commencement, with hypertrophy and swelling; new fibres of connective tissue are formed; at a later stage contraction occurs, and the deposit and the muscular fibres between which it is found undergo fatty degeneration. Sometimes a more circumscript process takes place, which leads to callous or calcifying tumours. Sometimes the deposit softens, and what has been inappropriately called suppuration of the muscle is produced. The tumours are called gummata and syphilomata, and resemble most those of the cellular tissue. Pain similar to rheumatic pain and

swelling are the principal symptoms, though they are often insignificant; the course of the disease is exceedingly slow, and may disappear under a specific treatment with the other symptoms. It need scarcely be said that local remedies may be often usefully combined with the internal ones.

Affections of the diaphragma seem exceedingly rare. In a case of liver disease the diaphragma was adherent to the liver (Murchison).

There is only one case known of gummata of the diaphragma, a plate of which is found in Guy's Hospital Reports (1868).

The *aponeuroses* and *tendines* of the muscles may also undergo syphilitic degeneration, leading to permanent contraction. Gummata of the tendons should not be confounded with ganglia, or malignant tumours.

The *joints* come scarcely into the scope of this treatise. The cartilages of the larynx are connected by joints, and the latter may become diseased and destroyed by syphilis. The vertebral joints may also become the seat of disease which begins in the bone, cartilage, or serous membrane.

DIAGNOSIS, PROGNOSIS AND TREATMENT OF VISCERAL SYPHILIS.

In many cases of inveterate syphilis we may suspect the internal organs affected; and the large rôle which syphilis plays in causing internal disorders should be always borne in mind even where no manifest symptoms exist.

The indicia from which we conclude that the system is or has been infected are as follows :—Glandular swellings exist at the occiput, the neck, groins, or limbs ; the nose

has the form of a saddle-nose; the forehead is prominent; the skin shows scars, indentures; the hair of the head is thin; the mucous membrane, especially of the fauces, shows cicatrices; there are copper-coloured maculæ in the face, which has an earthy hue; sometimes fissures at the angle of the mouth; the gums may show that mercury has been taken; spots of the cornea as the result of interstitial inflammation; the nails are thickened, and the finger-ends bulby in consequence of panaris or dactylitis. The *permanent* teeth may be disfigured. "They are narrow, and rounded, and peg-like; their edges are jagged and notched. Owing to their smallness, their sides do not touch, and interstices are left. When the other teeth are affected, the incisors rarely escape, and very often they are misformed when all the others are of a fairly good shape. The characteristic malformation of the upper central incisors consists in a dwarfing of the teeth, which are usually both narrow and short, and in the atrophy of its middle lobe. This atrophy leaves a single broad notch (vertical) in the edge of the tooth; and sometimes from this notch a shallow furrow passes upwards on both anterior and posterior surface nearly to the gum" (Hutchinson). To this view Baerensprung is opposed, who considers the malformation of the teeth also arising from other dyscrasiæ.

Pain is usually of the nocturnal character in syphilis; the cachectic (earthy, sallow) appearance is different from the cachexia of phthisis, cancer, mercury, mental disease, or cachexia pauperum. The history of the case has to be carefully sifted to find the arguments bearing on the syphilitic origin. This forms the general basis of the diagnosis. As for the single viscus affected, we

should employ all the latest means and apparatus which may further our purposes, and therefore, we should understand how to handle the ophthalmoscope, the spirometer, the laryngoscope (with electric or magnesium light preferred), the thermometer, uroscope, the chemicals for examining the urine, and the different specula (vaginæ, ani, auris, faucium, and urethræ—viz., endoscope).

Prognosis.—We should not judge too lightly, or we may be disappointed, as to the infallibility of remedies given in handbooks. The diseases belong, however, generally speaking, to the curable class.

Treatment.—The principal remedies are the specific ones taken internally. It has already been stated that iodide of potassium sometimes acts like a charm. Preparations of mercury are especially recommended where secondary symptoms still exist. It is often rational and to the purpose to combine both. There are many cases where neither remedy is necessary; mercury especially has no effect, when many relapses have taken place, unless a tonic treatment precedes. Iron, bark, and the mineral acids (especially nitric), may be relied upon as tonics. They are often to be interposed between, and almost always to follow, the specifics. The specifics are also externally applied, either methodically at various parts, or locally over the affected viscus. Diday especially recommended the local applications of mercurial and iodine ointment over the liver, spleen, &c., in new-born children. Mercurial vapour-baths are also recommended for the latter.

The decoction of Zittman is now rarely ordered, and other roots will be very little used for visceral syphilis; but hydrotherapy occupies a legitimate position, as also

some mineral baths (Aix-la-Chapelle, Bagnères, &c.), invigorating spas, and sea-bathing.

Of local remedies I have to mention strong solutions of nitrate of silver for the larynx or anus or vagina, the persulphites of mercury, and the perchloride. Gargles and the inhalation of atomized fluids are recommended in larynx and lung affections.

RELATION OF SYPHILIS TO SCROPHULOSIS, TUBERCULOSIS, AND SOME OTHER DISEASES.

Considering scrophulosis and tuberculosis as belonging to the same family of diseases—the former being the pre-existing malady observed in childhood, the latter becoming associated with it or developed from it at a later period—I compare them conjointly with syphilis, which certainly, in some cases, causes apparently similar deposits.

As regards the pathological products in the glands, the tuberculous matter is richer in fat and poorer in cell elements than syphilitic deposit, and the same holds good for nodules found in internal organs. The internal glands are pre-eminently attacked by the former dyscrasiæ and rarely by the latter. The viscera suffering from the former (lungs, intestines) have a comparative immunity from the latter.

It is, nevertheless, contended that scrofula and tuberculosis are to be considered as transformations or modifications of syphilis—especially inherited syphilis. It is impossible to prove this. It is not at all the rule that syphilitic parents produce syphilitic offspring; how much less can it be assumed that the hereditary taint

leads to a certain new disease. It is comprehensible that syphilis attacking tender children has a very debilitating influence, from the fact that invigorating remedies or hygienic measures, such as a sojourn at the sea-side, have a marked contrary effect. But debility leads to marasmus, which is far different to consumption. Hydrocephalus, diarrhœa, and exhaustion lead to a fatal termination. Fatal lung disease is very rare in syphilis. Tuberculous phthisis may attack syphilitic patients, but it is not a common cause of their death.

There are other points elucidating the difference of these blood dyscrasiæ; for instance, the influence of remedies. Mercury and iodide of potassium do certainly not cure phthisis. If the diseases were so nearly related, this would be otherwise.

This, however, does not prove that acquired syphilis would be harmless to an individual whose inherited taint is scrofula. I should rather think that any debilitating cause promotes the development of consumptive germs.

To the anxious questions of parents whose children suffer from visceral syphilis, whether they might die of consumption, we should answer in the negative unless phthisis is very prevalent in the family.

As regards the influence of these diseases on each other when found in the same person, I do not think one arrests the course of the other. I had only lately two confirmed consumptive patients who contracted syphilis, and the new affection had no appreciable influence on the old one. Nor does syphilis become arrested in its development by the already existing disease. In the same manner, acute maladies, when they attack syphilitic individuals, do not change the symptoms of constitutional syphilis. They may, however, sometimes take a

more unfavourable turn than otherwise, owing to the debility of the patient.

It may appear a trivial remark, but I think that the pest of syphilis brings enough disasters on mankind without supposing it to be the remote cause of tubercle.

ON THE LATENCY OF SYPHILIS AND ITS BEARINGS ON MARRIAGE.

As already stated, an individual who has been infected has no absolute immunity from secondary symptoms for a long period, and one who is cured of secondary symptoms may have a relapse or tertiary symptoms many years (some assert as long as twenty years) after. Some authors deny that syphilis, once acquired, can ever be eradicated from the system (Baerensprung, Parker), and say that, where no symptoms are present, syphilis exists "latent" in the body; whereas, formerly, many believed that a proper anti-syphilitic treatment cured the disease entirely. Fortunately, even if we believed in the theory of Baerensprung and his supporters, things would not be so bad as they appear at first sight. Whoever has once had a rheumatic attack is liable to suffer a relapse, and therefore, if once attacked, carries the latent disease with him during life and to the grave. But he may be free from a new attack for many years, if not for life. If the latency of syphilis could be understood in this sense, the case would not be so distressing; and it is the case to some extent. Just as in other diseases, the liability to relapses diminishes in the proportion of the time elapsing after the first attack. We know that an individual who had primary symptoms may be almost considered safe if no secondary symptoms appear during two years (Lanceraux); and also that one who, being cured of

secondary symptoms, has no relapse during a year's time, is pretty safe for life, although tertiary symptoms may exceptionally appear at a remoter period. Virchow expresses his view in opposition to the above-cited theory of latency, saying that syphilis exists as long as its symptoms exist; when all symptoms have disappeared, the disease has disappeared.

There is a practical side to the question, syphilis being a hereditary disease. It has, for this reason, an influence on marriage, as those who have the disease may beget diseased children. We have to consider how people about to marry or married may be affected by this. Either the male or the female may be diseased, and the disease be of different duration, before a contemplated marriage or after.

No physician would advise individuals with a syphilitic affection to marry, but we should have some rule as to how long after being cured he or she may be allowed to enter the bonds of matrimony. It is better that medical men should adopt a limit of time, however difficult it may be, in consequence of the individual circumstances, to arrive at a decision. And in finding out this limit we must contemplate the average danger risked by the parties. It is known that not all syphilitic parents beget syphilitic children, and also that some may propagate the disease to their offspring after five or even ten years. It would be most absurd, on the one hand, to advise marriage without restriction, as it would be to advise waiting five or ten years. An average safety is secured by waiting a year after the secondary symptoms are cured, or six months where only primary soft chancre existed. The safety is greater where the constitutional symptoms have come

under timely anti-syphilitic treatment, and no relapse has taken place. Wherever relapses have happened, it is more difficult to advise on a contemplated marriage, because the disease is more inveterate, and shows itself again and again. The danger, however, of propagating the disease, diminishes with the lapse of time, as even Baerensprung admits. Great prudence is necessary in answering the questions of near relations of the parties about to be married as to the state of their health, and it is better to express an opinion a little too sanguine than the reverse, because the least doubt expressed by the family physician might lead to breaking off the engagement. The happiness of more than one being would be sacrificed on account of a remote possibility.

Supposing marriage concluded, and one of the parties having had syphilis at a not very distant date, what can be done? Of course, sexual intercourse may be interdicted, or carried on only under certain restrictions. The wife would be as disinclined as her husband to disclose the real state of affairs, and perhaps it might be excusable on the part of the physician if he joined one of the parties in practising an innocent deception. A consultation with a colleague would be certainly advisable.

The last possibility is that pregnancy has taken place. If a physician be called in at the beginning of pregnancy, he should advise an antisyphilitic treatment to the mother, especially when constitutional symptoms exist; but if he be called in during the last three months of pregnancy, he should do no such thing, for it is proved by experience that syphilis of the mother, if it has not infected the fœtus in the commencement of pregnancy, will not do so during the last months (Baerensprung).

Should a child be born at full term, it has to be

carefully watched, and an anti-syphilitic treatment ordered as soon as symptoms of syphilis show themselves. The first-born children generally show the symptoms to a greater extent than the later begotten, and the latter often escape entirely.

NOTE ON HEREDITARY AND CONGENITAL SYPHILIS.

Hereditary diseases are those, the germs of which are transferred from one of the parents to the ovum. Congenital ones in the widest sense include hereditary ones, and such as are transmitted during the passage at parturition, and through the mother's milk afterwards. The syphilitic affections propagated from nurse to nursling, be it through suckling or otherwise, are better considered as forms of acquired syphilis at a tender age, closely allied, however, to the preceding ones.

It was well known to the syphilographers of former times that the disease could be propagated from parents to offspring, but they were not acquainted with the extent and the various forms of infantile visceral syphilis. Since Gubler published his memoir (1852), many others have followed in his track, as F. Mayr, Hutchinson, Diday, Desruelles, Baerensprung, Pick, Schott, Virchow, Lanceraux, &c. The subject of infantile syphilis has also been fully appreciated in recent debates of learned societies, especially in France.

The following are the modes of infection:—Either the father or mother, or both, may be diseased, and each transmit the syphilis in different ways. The father may have a primary sore at the time of connection, and

infect the female, who on her side transmits the poison to the ovum. Or the father, being a sufferer from constitutional syphilis (manifest or latent), may pass the germ of disease to the human ovum. The child may be born infected without the mother showing symptoms of the disease, but she may imbibe the poison from the fœtus during pregnancy, and afterwards give birth to children infected with syphilis. The mother may be the only source of infection, being affected with constitutional syphilis acquired before or after conception. The husband being healthy, the child gets infected by the blood circulating in mother and child. Lastly, infection may take place during the passage and delivery from the mother. One hypothesis lately given by a German author may also be noticed, that the seminal fluid injected into the womb may cause its local infection, leading to constitutional disease of the mother, as the internal surface of the uterus is generally bare of epithelium at the time most favourable for conception.

It is asserted that infection through the father is more frequent than through the mother, as the fœtus generally dies when the mother has constitutional syphilis. It is also asserted, on the same reason, that infection on the part of the mother is frequent during parturition (Baerensprung). It is certain that constitutional syphilis of the mother is a frequent cause of sterility. When both parents are affected with syphilis at the time of conception, there is but a small chance that the fœtus will live its full term; and when born alive, it is likely to die after a more or less short term of existence.

SYMPTOMS AND COURSE OF SYPHILITIC DISEASE OF THE FŒTUS AND NEW-BORN CHILD.

Syphilis is one of the most dangerous diseases of the fœtus, and the most common cause of its death and abortion. The fœtus may be born in a macerated state, or so that visceral lesions can be discerned.

The child may be born at full term, and at first show no symptoms. It is rare that the first signs appear before a fortnight is over. They are generally noticed between a fortnight and three months after birth. Many children die of pemphigus, but it is doubtful whether syphilis has anything to do with it, as many believe, because it is admitted that pemphigus is found without syphilis. Pemphigus has not been noticed so often in this country as in France and Germany. Usually, an eruption appears on the skin of the infant; especially near the nates, intertrigæ, maculæ, and papulæ are noticed. Next to these, the symptoms of coryza, commonly called "the snuffles," strike the observer. The children make a noise with the breathing, having as it were a cold in their nose; they sneeze frequently, and experience a difficulty in breathing, especially when sucking. This is caused by the nasal openings being partially closed by crusts. The nose affection is not always bone disease, but erythem and catarrh of the Schneiderian membrane. The nasal bones are, however, very soft, and may sink by losing the support of the membrane and cartilages. It is not so clear at what period the viscera are attacked; but from what has already been stated, it is evident that they get diseased long before the child is a year old. The lymphatic

glands, the serous membranes, the nervous centres, the lungs, heart, liver, spleen, pancreas, kidneys, and intestines, all may become involved. It is asserted that syphilis inherited from the father generally causes liver diseases, and syphilis from the mother lung diseases (Baerensprung).

The children acquire a cachectic appearance; the face gets pale, wrinkled, the forehead protuberant, the eyes sunken; often diarrhœa sets in, preceding death. A state of marasmus may exist without internal lesions, and in this case diarrhœa also ends the life.

The symptoms vary, of course, with the organ affected. The examination presents all the difficulties resulting from the tender age of the patients. Pain and uneasiness are manifested in the way peculiar to children, by crying, agitation of the limbs, and a peculiar anxious expression of the features.

The progress of the disease is often rapid. The mortality is fearful, and requires still closer investigation. The prognosis depends much upon the time the patients come under treatment. The treatment is often most successful if early instituted. The following is a case in support of this.

Charles Leighbourn, a first child, aged two months, was brought to the dispensary on July the 2nd, 1867, on account of diarrhœa. He did not look very cachectic, but a little thin. An eruption on the skin which was noticed was said to have existed since he was a fortnight old, but was not thought anything. He breathed with difficulty, and with every inspiration a sniffling noise was made. The nasal openings showed some yellow crusts; the root of the nose was somewhat flat; the tongue a little whitish, the throat red,—erythematous. There were a few

papulæ in front of the chest, a few maculæ scattered at the inside of the thighs, and two plaques near the anus. There was no heat of the skin. Ordered to be kept clean, and to take tinct. catech. in decoct. of bark.

July 9. The diarrhœa was stopped; the child had a fit, with staring of the eyes and apparent loss of consciousness for a very short time. Hydrarg. c. creta gr. ß bis, terve die, with magnes. carbon. A week later the exanthem was a little paler; the powders to be continued, also iodide of potass. gr. ii ter die, in the intervals. This treatment was continued with short interruptions up to the end of the fourth week, when the powders were discontinued, and mistura chirattæ substituted, ʒi. twice a day.

After a lapse of another week, the iodide of potassium had to be discontinued, and the powders were ordered again. The sniffling soon diminished; the child visibly improved during the seventh and eighth week, taking iodide of potass. gr. ii. twice. Decoction of bark was then prescribed, and the child was considered cured after another week.

In this case visceral syphilis was already present, as the epileptic fit clearly proved, but was arrested in time by treatment. Most likely the child continued well, as the mother did not apply for eight months after.

The mother was healthy, but the father, a sailor, had, as is common with this class, had venereal disease a year before marriage, and was unfortunately under the care of a quack before he applied to a hospital.

TARDY AFFECTIONS OF HEREDITARY SYPHILIS.

They may show themselves between the fifth and twelfth year of age, and are already mentioned under Diseases of the Nervous System and the Senses. Blindness, deafness, idiocy, and epilepsy may be caused by syphilis; but such cases are not so frequent as some assert, and frequently the syphilitic origin is not so clearly proved; but to deny their existence altogether is not now possible.

PUBLIC HYGIENE.

The history of State measures adopted to prevent the spread of syphilis affords a curious instance of the changeability of the human mind, and public opinion in general. Either a system of repression similar to that instituted formerly in workhouses has been practised in these matters, or, on the other hand, no notice whatever has been taken of them. The punishment of persons, males or females, who propagated the disease, and so-called razzias (as lately practised in Vienna), should be the last measures introduced. Need I say that this system does not prevent the punished persons subjecting themselves and others to renewed danger? and that it has the undesirable effect of making such persons hide their disease as long as possible—undesirable, because they are a means of spreading the disease for a longer space of time. It would be quite as bad to take no notice of the prevalence of the plague; and therefore we may consider what sensible measures might be recommended.

They have reference to the adult male and female

population, and to nurslings and infants. Only certain classes of the male population can effectually be brought under the action of certain laws; they are the soldiers and sailors. The Act of Parliament of 1866, for preventing the spread of the disease amongst them in this country, has had good results, as proved already by statistics, and the wonder is only why these improvident and careless people have been so long left unprotected against their own folly.

The question arises, how far could a similar benefit be extended to the civil male population? A system of inspection may be possible on a small scale, with operatives and workmen in large Government factories or private establishments. This could not be enforced by Acts of Parliament, but must be left a matter of discretion to proprietors or authorities. Medical men should, however, not disdain to undertake the duties, as they confer a boon by it on the community at large. The men who frequent brothels are submitted to examination in a few places (Hamburg); but this plan is too degrading to be recommended by any sensible person. Workmen engaged in certain trades (glassblowers, &c.) should be cognizant of the danger of their trade.

The measures respecting females have been too often discussed to require more than a passing notice. In the first place, it is desirable to have them on a uniform plan in this and other countries. They should be judicious and effective here as elsewhere; because if they are so in one place only and not in others, the plague always finds a refuge and resting-place. But it must be borne in mind by those who advise regulations of this kind, that too great severity leads to frauds of every description. This much is certain, that every

opportunity should exist for the women to be examined at regular and short intervals, that this should be done with as much humanity as possible, and that other measures than severity should be brought into play to induce them to take care of their health.

Wherever the hospital accommodation for lock patients is defective, as in London, new hospitals should be founded for both males and females, and special wards be formed in general hospitals. All this, however, should be done in a comprehensive manner.

Nurses should be as much as possible protected from catching the disease. The rules of foundling hospitals should be made with this view. In private life nurses must take care of themselves, and their attention should be directed to this matter at the time they are trained. Nurslings who are not in establishments are difficult to protect. They are continually put under the care of strangers, who may infect them. It would be a good plan to form a society for the special purpose of preventing the disease among nurses and nurse-children by visitation and instructions.

That vaccination may never become a source of danger is the business of those medical officers appointed for the purpose.

As public hygiene cannot interfere in private life, the spread by marriage (of diseased parents) must be prevented by other means.

It is the writer's conviction that in this country inveterate forms of the disease, and especially visceral syphilis, would become rarer if the number of unqualified practitioners and quacks, and the sphere of their activity, was more limited, as they principally bestow their care on these diseases. I do not deny that even quacks may be of

some use to mankind; for instance, they stimulate the profession to exertions which perhaps otherwise would not be made. I believe that some of them are not so hardened but that, if they knew what incalculable mischief they do, they might, perhaps, give up their nefarious trade. But I also believe that the Government of a civilized country is fully justified in taking measures for checking the evil, and that the fact that these persons further the spread of the disease is alone a sufficient reason for Government interference.

CONCLUSION.

I believe I have shown that visceral syphilis is not so rare as many believe, and that authors of all countries bear witness to this fact. Syphilis is still not only a national, but an international plague. It is, however, not only amenable to treatment, but its spread may be prevented and it may become of a milder type through legislation. The frequency of visceral and inherited disease makes such legislation more desirable and urgent; because if we formerly only wished to protect ourselves and our friends from becoming infected, we now think of saving coming generations from danger. It may not yet be possible to stamp out syphilis, but we should circumscribe its truly disastrous ravages to the narrowest possible limits. In legislating on the subject, however, every step should be taken cautiously, in order not to make things worse instead of better. Another means of slowly but surely improving matters is by a better medical education respecting the knowledge of the syphilitic disease, and of this the leading members of the profession

should not lose sight. The younger medical generation should become fully acquainted with the bearing of the whole question, and they should be advised to study it with earnestness. The influence of every single member of the profession should be individually exerted, wherever an opportunity offers, to check the propagation of this treacherous malady.

THE END.

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